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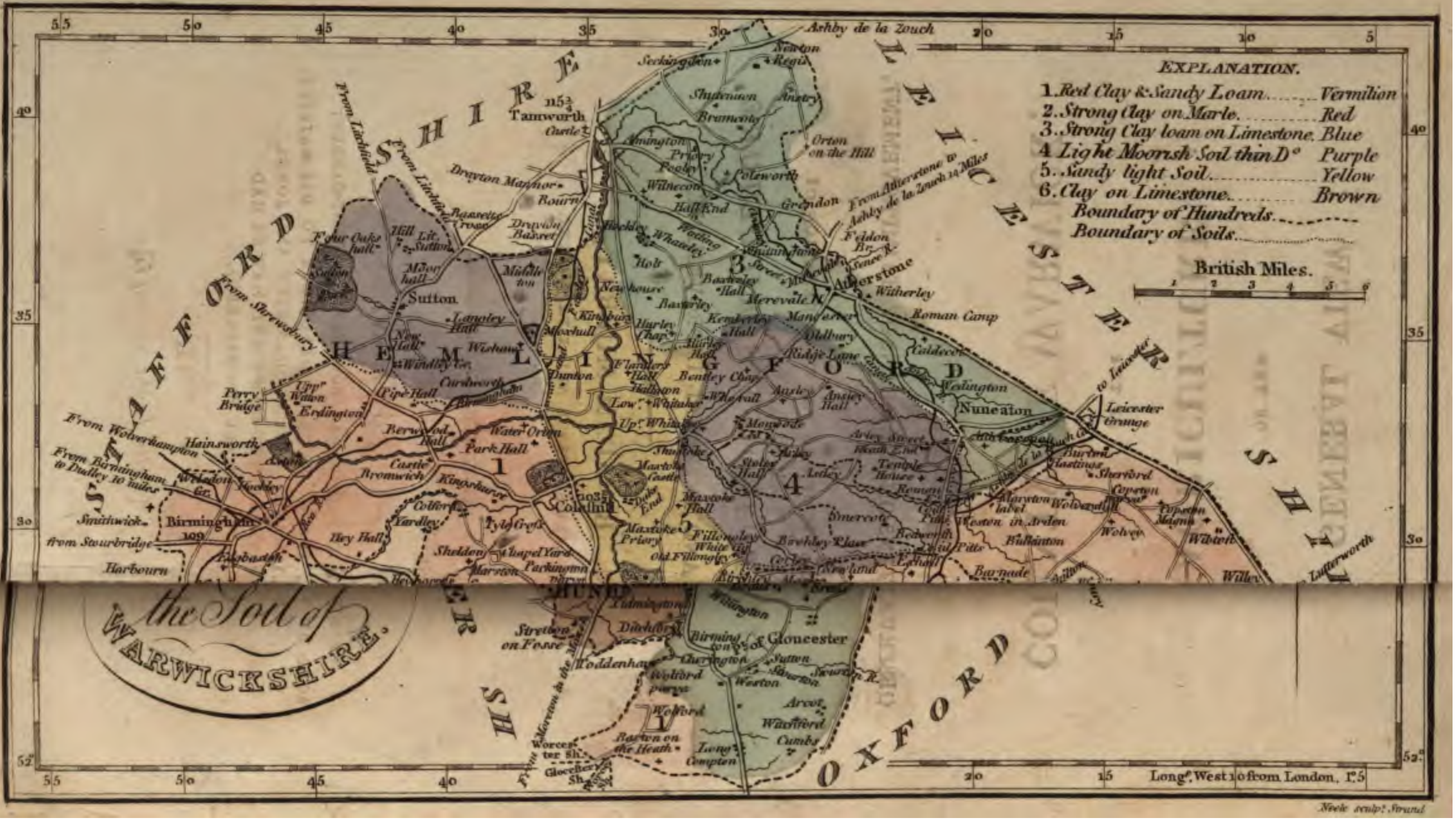
GENERAL VIEW
OF THE
AGRICULTURE
OF THE
COUNTY OF WARWICK.



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GENERAL VIEW

OF THE

AGRICULTURE

OF THE

COUNTY OF WARWICK;

WITH

OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT.

DRAWN UP FOR THE CONSIDERATION OF

THE BOARD OF AGRICULTURE
AND INTERNAL IMPROVEMENT.

BY ADAM MURRAY,
LAND-SURVEYOR AND ESTATE-AGENT.

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ADVERTISEMENT.

THE desire that has been generally expressed, to have the AGRICULTURAL SURVEYS of the KINGDOM reprinted, with the additional Communications which have been received since the ORIGINAL REPORTS were circulated, has induced the BOARD OF AGRICULTURE, to come to a resolution, to reprint such as appear on the whole fit for publication.

It is proper at the same time to add, that the Board does not consider itself responsible for every statement contained in the Reports thus reprinted, and that it will thankfully acknowledge any additional information which may still be communicated.

TO THE

RIGHT HONOURABLE

SIR JOHN SINCLAIR, BART.

PRESIDENT OF THE BOARD OF AGRICULTURE.

SIR,

When you did me the honour to propose me to the Board of Agriculture, as a fit person to survey the County of Warwick, and were pleased to signify to me their approval of your recommendation, I felt the importance of the undertaking, and commenced it under considerable embarrassment, aware that I possessed no literary attainments, nor any abilities to justify your favourable opinion of me, except my knowledge of practical farming, acquired by many years' attention to it, on the improved system followed in Scotland. I hoped, however, by unwearied perseverance in my enquiries, to compensate for the many deficiencies of language, which will, I fear, be found in the annexed pages.

I shall be truly happy if, in elucidating the present state of the Agriculture of the County, and by the remarks I have judged it right to offer, I shall in any degree have contributed towards the abolition of bad practices, and the introduction of good ones.

I have endeavoured to make my Report as perfect, as my means of information, and my own observations enabled me; and whatever may be the opinion of the Honourable Board concerning its merits, I humbly hope they will give me credit for good intentions, and believe that industry and application have not been wanting to deserve their approbation.

That I might do justice to the mission in which I was engaged, and that I might give due attention to every object deserving remark or enquiry, from the moment of my approach to the County 'till the period I quitted it, I never entered a carriage or crossed a horse, but walked every step; considering this mode of travelling (though attended with much bodily fatigue and no small expense) as best calculated for procuring information.

From several Gentlemen in the County, to whom I had introductions, I received the greatest possible attention, the most cordial good-will, and many marks of hospitality and politeness, for which I feel very grateful, and the remembrance of which can never be effaced from my memory.

61, *St. Martin's-Lane,*
May, 1812.

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AGRICULTURAL SURVEY

OF THE

COUNTY OF WARWICK.

CHAP. I.

GEOGRAPHICAL STATE AND CIRCUMSTANCES.

SECT. I.—SITUATION AND EXTENT.

WARWICKSHIRE is an inland county, situated near the centre of the kingdom, in a north-west direction from London. It is bounded on the north-east by Leicestershire, on the south-east by Northamptonshire and Oxfordshire, on the south and west by Gloucestershire, on the west by Worcestershire, and on the north and west by Staffordshire; and according to Cary's Map, lies between 51° 57′ 30″ and 52° 42′ north latitude, and between 1° 7′ 30″ and 1° 56′ 40″ of west longitude from the Observatory at Greenwich.

The greatest length of the county, is 51 miles and a quarter, from near Honey-hill in the north, to Rollewright-stones in the south; and the greatest breadth, from the eastern extremity of the county, about half a mile above the Northampton road, to the western extremity at Headley-cross, is 36 miles.

The county contains, by Cary's Map, 597,477½ acres, at the calculation of 80 chains statute measure to a mile; and is justly considered to be one of the most fertile and valuable counties in the kingdom.

Although the City and County of Coventry is a district distinct from Warwickshire, yet lying within the County of Warwick, it is proper to include them in this Report. The City and County of Coventry lies in a north-east direction from Warwick, and is distant from it about 10 miles and a quarter. It is bounded on every side by Warwickshire. The greatest length, from Bedworth, to a point near Baggington, in a north-east and south-west direction, is seven miles and a half; and the greatest breadth, from near Nettle-hill to Brownshill-green, in the direction of Karesley-green, in about an east and west direction, is seven miles and a quarter. The district contains in all about 18,161 acres.

SECT. II.—DIVISIONS.

1. *Political.*

THE County of Warwick is included in the Midland Circuit. It is divided into the four Hundreds of

Barlichway,	Kington, and
Hemlingford,	Knightlow;

the City and County of Coventry may be said to constitute a fifth Hundred. It contains one city, thirteen market towns, two hundred entire parishes, and nine demi-parishes.

The market-towns are, Warwick (the county town), Birmingham, Coventry (city), Stratford-on-Avon, Alcester, Henley-in-Arden, Kington, Southam, Rugby, Nuneaton, Atherstone, Sutton-Coldfield, Kenilworth, and Coleshill. To these may be added, Tamworth, which is partly in this county.

Warwickshire sends six Members to Parliament, viz. two for the County, two for Warwick, and two for Coventry. It is remarkable, that the freeholders of the County of the City of Coventry, *as freeholders*, never vote upon the return of any Member to serve in Parliament, either for the County of Warwick, or for the City of Coventry.

The four hundreds of the county, together with the city and county of Coventry, and the towns of Warwick and Birmingham, are formed into twenty divisions. The following is a Table of the Divisions belonging to each hundred, distinguishing the parishes, towns, townships, hamlets, chapelries, villages, liberty, and such as are extra-parochial, by initials placed after them; the initials placed before them, denote whether rectory, vicarage, chapelry, or curacy.

Barlichway Hundred.

1. *Alcester Division*, containing eleven parishes, three hamlets, and one township.

R.	1.	Alcester	P.
C.	2.	Great Alne	P.
R.	3.	Arrow with Ragley, containing Oversley (Stratford division).	P.
V.	4.	Coughton	P.
	5.	Drayton	T. in Old Stratford parish.
R.	6.	Ipsley	P.
R.	7.	Kinwarton	P.
	8.	Milcott	H. in the parish of Weston-upon-Avon, Kiftsgate hundred, Gloucestershire.

R.	9.	Morton Baggott	P.
	10.	Sambourn	H. in Coughton parish.
R.	11.	Spernal	P.
V.	12.	Studley	P.
	13.	Tardebigg	P.
	14.	Tutnal and Cobley	H. in Tardebigg parish, near Bromesgrove.
C.	15.	Weethley	P.

2. *Henley Division*, containing five parishes and five hamlets.

	1.	Aspley and Fordhall	H. in the parish of Wootton Waven.
R.	2.	Beaudesert	P.
V.	3.	Claverdon	P.
C.	4.	Henley in Arden	H. in Wootton Waven parish.
	5.	Langley	H. in Claverdon parish.
	6.	Pindley	H. ditto.
R.	7.	Preston Baggott	P.
V.	8.	Rowington	P.
	9.	Ullenhall	H. in Wootton Waven parish.
V.	10.	Wootton Waven	P.

3. *Snitterfield Division*, containing fourteen parishes and two hamlets.

V.	1.	Alveston	P.
C.	2.	Bearley	P.
	3.	Beausall	H. in the parish of Hatton.
V.	4.	Budbrook	P.
	5.	Fullbrook	P.
R.	6.	Hampton Lucy, otherwise Bishop's Hampton	P.
R.	7.	Haseley	P.
V.	8.	Hatton	P.
R.	9.	Honiley	P.
V.	10.	Loxley	P.
C.	11.	Norton Lindsey	P.
V.	12.	Sherborne	P.

	13.	Shrewley	H. in Hatton parish.
V.	14.	Snitterfield	P.
R.	15.	Wolverton	P.
V.	16.	Wroxall	P.

4. *Stratford Division*, containing eleven parishes and three hamlets.

V.	1.	Aston Cantlow	P.
	2.	Bickmersh and Little Dorsington	H. in the parish of Wilsford, (Deerhurst hundred, Gloucester.)
V.	3.	Bidford	P.
R.	4.	Billesley	P.
R.	5.	Binton	P.
R.	6.	Exhall	P.
V.	7.	Haselor	P.
	8.	Luddington	H. in Old Stratford parish.
	9.	Oversley	H. in the parish of Arrow.
V.	10.	Salford Prior	P.
V.	11.	Stratford-on-Avon	Town.
	12.	Stratford, Old	P.
C.	13.	Temple Grafton	P.
	14.	Wixford	P. Attached to Exhall church.

Hemlingford Hundred.

5. *Atherstone Division*, containing fifteen parishes, one township, and three hamlets.

V.	1.	Ansley	P.
	2.	Atherston	Township in Mancester parish.
R.	3.	Baxterley	P.
	4.	Bentley	H. in Shustock parish.
R.	5.	Caldecote	P.
V.	6.	Chilvers-Coton	P.
V.	7.	Corley	P.
V.	8.	Fillongley	P.
	9.	Hartshill	H. in Mancester parish.
C.	10.	Marston-Lea	P.

V.	11.	Mancester	P.	
V.	12.	Maxstock	P.	
C.	13.	Merevale	P.	
V.	14.	Nuneaton	P.	
	15.	Oldbury	H.	in Mancester parish.
V.	16.	Shustock with Blythe	P.	
R.	17.	Weddington	P.	
C.	18.	Whitacre Over	P.	
C.	19.	Nether Whitacre	P.	

6. *Birmingham Division*, (exclusive of Birmingham Town), containing five parishes and one township.

V.	1.	Coleshill	P.	
V.	2.	Curdworth	P.	
	3.	Minworth	T.	attached to Curdworth.
R.	4.	Sheldon	P.	
R.	5.	Sutton Coldfield	Town.	
R.	6.	Wishaw with Moxhall	P.	

7. *Solihull Division*, ten parishes and four hamlets.

R.	1.	Baddesley-Clinton	P.	
C.	2.	Balsall	H.	in parish of Hampton in Arden.
C.	3.	Barston	P.	
R.	4.	Berkeswell	P.	
V.	5.	Church Bickenhill	P.	
R.	6.	Elmdon	P.	
V.	7.	Hampton in Arden	P.	
	8.	Kinwalsey	H.	in parish of Hampton in Arden.
C.	9.	Knowle	H.	ditto.
V.	10.	Meriden	P.	
	11.	Nuthurst	H.	ditto.
V.	12.	Packington, Great	P.	
R.	13.	Packington, Little	P.	
R.	14.	Solihull	P.	

8. *Tamworth Division*, containing ten parishes, one township, four hamlets, and one liberty.

C.	1.	Amington	T.	in Tamworth parish.
V.	2.	Austrey	P.	

R.	3.	Baddesley Ensor	P.
	4.	Bolehall	H. in Tamworth parish.
C.	5.	Castle-hill	L. in ditto.
C.	6.	Dosthill-house	H. in ditto.
C.	7.	Glasscote	H. in ditto.
R.	8.	Grendon	P.
V.	9.	Kingsbury	P.
C.	10.	Middleton	P.
R.	11.	Newton Regis	P.
V.	12.	Polesworth	P.
R.	13.	Seckington	P.
C.	14.	Shuttington	P.
	15.	Tamworth	Town.
C.	16.	Wilnecote	H. in Tamworth parish.

Kington Hundred.

9. *Brails Division*, containing fourteen parishes, one township, one hamlet, and one extra parochial.

R.	1.	Barcheston	P.
R.	2.	Barton on the Heath	P.
V.	3.	Brails	P.
C.	4.	Burmington	P.
R.	5.	Cherington	P.
R.	6.	Compton Wyniates	Extra parochial.
V.	7.	Honington	P.
R.	8.	Idlicote	P.
V.	9.	Long Compton	P.
V.	10.	Pillerton-Hersey	P.
C.	11.	Pillerton-Priors	P.
	12.	Stowerton	T. attached to Whichford.
R.	13.	Stretton on the Foss	P.
R.	14.	Whalcott	P.
R.	15.	Whichford	P.
V.	16.	Great Woolford	P.
	17.	Little Woolford	H. in Great Woolford parish.

10. *Burton-Bassett Division*, containing eleven parishes and one chapelry.

R.	1.	Avon-dassett	P.
V.	2.	Burton-dassett	P.
V.	3.	Farnborough	P.
R.	4.	Fenny-Compton	P.
C.	5.	Mollington	Chapelry.
V.	6.	Priors Hardwick	P.
C.	7.	Priors Marston	P.
V.	8.	Ratley and Upton	P.
V.	9.	Shotteswell	P.
C.	10.	Lower Shuckburgh	P.
R.	11.	Warmington & Arlescott	P.
V.	12.	Wormleighton	P.

11. *Kington Division*, containing thirteen parishes, five hamlets, and one extra parochial.

R.	1.	Atherstone-upon-Stour	P.
V.	2.	Butlers Marston	P.
C.	3.	Chadshunt	P.
	4.	Compton Scorpion	H. in Ilmington parish.
C.	5.	Compton Verney	Extra parochial.
C.	6.	Combrook	H. in Kington parish.
V.	7.	Eatington, Lower and Upper	P.
C.	8.	Gaydon	P.
R.	9.	Halford	P.
R.	10.	Ilmington	P.
V.	11.	Kington	P.
R.	12.	Lighthorne	P.
R.	13.	Oxhill	P.
V.	14.	Radway	P.
V.	15.	Tysoe	P.
R.	16.	Whitchurch	P. including Broughton Crimscott, & Wompton hamlets.

12. *Warwick Division*, containing twelve parishes.

R.	1.	Barford	P.
V.	2.	Bishop's Tachbrook	P. including Tachbrook Mallory. V. or C.

V. or C.	3.	Charlcott	P.
C.	4.	Chesterton	P.
R.	5.	Lapworth	P.
C.	6.	Morton Morrell	P.
V.	7.	Newbold Pacey	P.
C.	8.	Packwood	P.
V.	9.	Tanworth	P.
R. or V.	10.	Wasperton	P.
V.	11.	Wellesbourn Hastings	P.
	12.	Wollesbourn Mountford	P.

Knightlow Hundred.

13. *Kenilworth Division*, containing fifteen parishes and one hamlet.

R.	1.	Ashow	P.
R.	2.	Baggington	P.
C.	3.	Bubbenhall	P.
V.	4.	Cubbington	P.
V.	5.	Harbury, otherwise Harberbury	P.
V.	6.	Kenilworth	P.
V.	7.	Leamington Priors	P.
V.	8.	Leek-Wootton	P.
V.	9.	Lillington	P.
C.	10.	Milverton	P.
V.	11.	Offchurch	P.
V.	12.	Radford Semeley	P.
V.	13.	Stoneleigh	P.
	14.	Tachbrook Mallory	H. in parish of Bishop's Tachbrook.
C.	15.	Ufton	P.
R.	16.	Whitnash	P.

14. *Kirby Division*, containing eighteen parishes, five hamlets, and two townships.

R.	1.	Allesley	P.
R.	2.	Arley	P.
C.	3.	Astley	P.

R.	4.	Bedworth	P.
C.	5.	Binloy	P.
	6.	Brandon	H. in Woolston parish, (Rugby division).
R.	7.	Brinklow	P.
V.	8.	Bulkington	P.
C.	9.	Burton Hastings	P.
	10.	Combfields	P.
	11.	Copston	H. in the parish of Monks Kirby.
	12.	Coundon	P.
	13.	Easenhall	H. in the parish of Monks Kirby.
C.	14.	Harborough Magna	P.
V.	15.	Monks Kirby	P.
	16.	Pailton	T. in the parish of Monks Kirby.
C.	17.	Shilton	P.
V.	18.	Sow	P.
V.	19.	Stretton Baskerville	P.
	20.	Stretton-under-Foss	T. in the parish of Monks Kirby.
C.	21.	Wibtoft	H. in Claybrook parish, (Guthlaxton hundred, Leicester).
	22.	Willenhall	H. in the parish of the Holy Trinity, city of Coventry.
R.	23.	Willey	P.
V.	24.	Withybrooke	P.
V.	25.	Wolvey	P.

15. *Rugby Division*, containing sixteen parishes, three townships, and one hamlet.

R.	1.	Bilton	P.
R.	2.	Bourton and Draycott	P.
C.	3.	Brownsover	P.
R.	4.	Churchover	P.
V.	5.	Clifton	P.
	6.	Cosford	H. in parish of Newbold-on-Avon.
V.	7.	Dunchurch	P.
R.	8.	Frankton	P.
V.	9.	Hill Morton	P.
R.	10.	King's Newnham	P.

R.	11.	Lawford Church	P.
	12.	Little Lawford	T. in parish of Newbold-on-Avon.
	13.	Long Lawford	T. ditto.
V.	14.	Newbold-upon-Avon	P.
V.	15.	Newton and Biggin	T. in Clifton parish.
R.	16.	Rugby	P.
R.	17.	Ryton-upon-Dunsmooor	P.
V.	18.	Stretton-upon-Dunsmoor	P.
V.	19.	Willoughby	P.
V.	20.	Woolston and Marston	P.

16. *Southam Division*, containing fifteen parishes, one hamlet, one chapelry, and five extra parochial.

C.	1.	Ascote	C.
R.	2.	Birdingbury	P.
V.	3.	Grandborough	P.
	4.	Hadnell	Extra parochial.
	5.	Hyde's Pastures	H.
V.	6.	Hunningham	P.
V.	7.	Itchington Bishops	P.
V.	8.	Ditto Long	P.
R.	9.	Ladbrooke	P.
V.	10.	Leamington Hastings	P.
V.	11.	Marton	P.
V.	12.	Napton on the Hill	P.
	13.	Radbourn, Upper	Extra parochial.
	14.	Ditto, Lower	Ditto.
C.	15.	Upper Shucksburgh	P.
R.	16.	Southam	P.
R.	17.	Stockton	P.
V.	18.	Wappenbury & Eathorpe	P.
	19.	Watergall	Extra parochial.
V.	20.	Weston under Weathley	P.
	21.	Will's Pastures	Extra parochial.
V.	22.	Wolfhamcote	P.

17. The *City of Coventry Division*, containing two parishes.

V.	1.	Holy Trinity	P.
V.	2.	St. John the Baptist with St. Michael	P.

18. The *County of the City of Coventry Division*, containing seven parishes and two hamlets.

V.	1.	Anstey	P.	C.	6.	Stivichall	P.
V.	2.	Exhall	P.	V.	7.	Stoke	P.
V.	3.	Foleshill	P.		8.	Winnall	H.
	4.	Karesley	H.	C.	9.	Wyken	P.
	5.	Sow (part of)	P.				

19. The *Town of Warwick Division*, containing two parishes.

V.	1.	St. Mary	P.
V.	2.	St. Nicholas	P.

20. *Birmingham Division*, containing two parishes.

R.	1.	Town	T.
V.	2.	Aston	P
C.	3.	Edgbaston	P.

2. *Ecclesiastical.*

Warwickshire is in the province of Canterbury, dioceses of Worcester, and Lichfield and Coventry. The city of Coventry, in conjunction with Lichfield, is the see of a Bishop.

The preceding list of parishes contains the best information I could obtain, in regard to rectories, vicarages, and chapelries, denoted by the initials, R. V. and C. preceding the names of the parishes.

SECT. III.—CLIMATE.

THE climate of this county is generally esteemed mild and healthy. The inhabitants seem to be stout and robust, and, excepting in cases where the nature of their employment is injurious to health, live to an advanced age.

The most general winds are from the south-west, and are usually accompanied with rain; but not unfrequently, the effects of an easterly variation are felt to the middle of May; and it scarcely need be remarked, that vegetation must, in consequence, suffer severely. Warwickshire, upon the whole, however, is not to be considered as subject to any particular excess of damp or frost.

SECT. IV.—ELEVATION AND SOIL.

THE highest lying land in the county, is at Corley, in the hundred of Hemlingford, and the woods near Packington. There is also a ridge of high land at Walton, Long Compton, and the Brails-hill, in the hundred of Kington.

Corley, from its elevated situation, must be colder than any other part of the county, excepting the ridge above Long Compton, and the Brails-hill, which, although not near the same elevation, yet from their exposure, and the soil being of a stronger and colder nature, are less fertile. The other lies much higher, but is well sheltered by woods, and the soil is of a lighter texture, and more friable nature.

It would require much time, and very minute observation, to describe exactly the extent of each different sort of soil in the county under review; indeed it would be a task hardly possible to effect, for the soil varies so much in all the districts of the county, (two or three different kinds of soil being often found in the same field), that any exact description cannot be expected.

I shall begin with the *Hundred of Kington*, lying at the south of the County; then proceed to Knightlow Hundred on the east; the County and City of Coventry in the centre; the Hemlingford Hundred on the north; and lastly, Barlichway Hundred on the west.

The soil extending from Rollewright-stones, on the borders of Oxfordshire, to Long Compton, Barton-on-the-heath, Four-shire Stone, Woolford, Whichford, Weston, Cherington, Burmington, Brails-hill, and Barcheston, is mostly a strong clay loam on limestone. From thence to Barrow-hill, New St. Dennis, Idlicote, Whalcott, Halford, Pillerton-priors, Upper Eatington, Pillerton-hersey, Butler's-marston, Foss-Bridge, Combrook, Frix-hall, and Compton-Verney, is stronger clay on limestone rock; and so continues to near Walton-house, and Warwick, and down the east side of the Avon, by Barford, all the way to Charlcott, and Wellesbourn-hastings.

From Walton to Kington, with little exception, the soil is a very strong cold clay, and poor. Descending the hill to Kington, a vale of land appears to begin at the Brails-hill, and stretches along by Ox-hill, Herd-hill, Kington, Owlington, Froghall, Warmington, and Shotteswell, to Gaydon and Knightcote, in this hundred, and extending in the hundred of Knightlow, by Southam, Stockton, Leamington-hastings, across the Leam river to near Draycote. This tract is from four to five miles broad; and contains a great deal of valuable grazing land, which is clearly proved by the number of very fine sheep and oxen fatted upon it, but more particularly in the neighbourhood of Radway, Little Dassett, Avon Dassett, and Warmington.

The soil about Kington is a strong clay loam, and continues this quality to within a mile of Radway, where it alters to a rich clay loam, and so remains through Mr. Miller's park at Radway, to nearly the bottom of the tower that is built at Ratley: there the soil changes to a brown and light clay loam on limestone rock, which runs along this height to the borders of Oxfordshire, for nearly a mile in breadth. This soil is light enough for growing turnips, as I saw some fields of very good Swedes, and of the white Norfolk, all sown broadcast; but I scarcely ever witnessed more neglect of this valuable root; very few indeed, of the fields which came under my observation, having been either weeded or hoed.

On descending the height towards Warmington, extending across Mr. Holbeck's Park to Farnborough, the soil alters to a very rich clay loam, the surface all in rich old grass, extending across to Northend. From thence the soil changes to a blue clay on a dark-blue limestone, which continues to a mile beyond Gaydon, where the soil again changes to a light-coloured clay, on a light-coloured limestone rock, until a near approach to Harwoods-house, where it changes to a red clay loam. Within a short distance, in the direction towards Warwick, you reach a sandy red loam, which extends to about four miles north of Coventry. This comprehends the principal part of the Kington hundred, which is said to contain 137,325 acres.

The Knightlow Hundred, supposed to contain 173,714 acres, extends from Guy's Cliff, in an easterly direction, to the borders of Northamptonshire, and in a north-easterly direction to the borders of Leicestershire. A great proportion of this district is in tillage. From the borders of this hundred next Warwick, to Leamington, Radford, Whitnash, Tachbrook-Mallory, to the Foss-way, Offchurch, Hunningham-hill, Wappenbury, Ryton, Woolston, Church-Lawford, Essen-hill, Newbold-Revel, Newnham-Padox, Willey, Wibtoft, Withybrooke, Stretton-Baskerville, Brinklow, Combe Old-Lodge, Willenhall, Finford, Baggington-hall, Baggington, Brook-bridge, Stoneleigh-park, Worsley-bridge, Finham-green, Canley, Fletchamsted-hall, Allesley-park, Alton-hall, Upper-green, Westwood, Kenilworth, Pedfen, Kenilworth Chase,, Honily, Kenilworth Castle and Town, and Leek-wootton, to Warwick, the soil is mostly a red clay loam and sand, upon freestone and limestone, and in several places on good sharp gravelly bottom.

From Harbury-heath to Bishops Itchington, Old Itchington, Holmes-house, Ladbrooke, Southam, Long-Itchington, Stockton, Townlow, Leamington-hastings, extending easterly to the Oxford canal, and across the Leame river to Draycote and Bourton, the soil is a strong clay loam on limestone rock.

From Bourton to Thurleston, Dunchurch, Cock-robin, Hill-morton, Rugby and Bilton, the soil is light sandy land, in several places mixed with sharp gravel, well adapted for the turnip husbandry. From Rugby to Newbold-on-Avon,. extending to Church-over, and Bensford-bridge, the soil is a rich clay loam on limestone and marl. From Bensford-bridge, extending along the borders of the county to Highcross, Leicester-grange, and Stretton-Bockeville, is a good strong clay soil, a considerable proportion of which is in grass.

The City and County of Coventry, mostly bounded by the Knightlow hundred, is supposed to contain 18,162 acres. All around the town for a considerable distance, is a very rich red deep sandy loam on marl and freestone rock; most of which is in grass. The same kind of soil extends in a northerly direction by Karesley-green, Hall-hill, and Newland-hall;—in a north-easterly direction, by Stoke, Wyken, Little-heath, Oxbury, and Exhall-green, the soil is more intermixed with clay, and in several parishes strong land.

The Hemlingford Hundred, which is in the north part of the county, bounded by Leicestershire on the north-east and north, and Staffordshire on the north-west, is supposed to contain 173,715 acres, a great porportion of which is in tillage.

From Corley to Fillongley and Bedworth, is a red sand and clay loam, in several places very poor. From Griff to Ashby-de-la-Zouch, Mount-pleasant, Nuneaton, Nuneaton-fields, Weddington-hall, Caldecote, Witherley, Atherstone, Whitington, Green-house, Waverton, Bramcote, Austrey, and Newton-in-the-Thistles, to Honey-hill, Seckington, Shuttington, Amington-hall, Amington, Polesworth, Wilnecote, Wigford, Baddesley Ensor, and Baxterley, is a strong clay loam on marl; and a considerable part of this tract is in grass, and used in grazing, more especially that part that lies along the borders of Leicestershire.

At Merevale, the soil alters to a white-coloured sandy clay on bastard ironstone, extending in a south-easterly direction by Oldbury-hall, where the soil becomes very poor and barren. About Hunts-hall, Birchley-heath, Ridge-lane, and Baxterley-heath, there are many different kinds of soil, but all very poor. On descending from the high ridge by Old-hall, Baxterley-hall, Baxterley and Kingsbury, the soil alters very much from a sandy loam to a red clay, and marl, and to a moorish white and yellow clay on clay and marl.

On crossing the Coleshill river, the soil alters to a light dry sharp gravel, for about a mile, when it changes to a poor barren white sandy moorish soil; lies low and wet, and so continues north and south along the Birmingham canal for a considerable way, and about two miles in breadth. From the west side of Body-moor to Middleton, Hunts-green, Ash-end, Canwell-gate, Sutton, Moor-hall, Sutton-Coldfield, and Berwood-common, the soil varies very much, and is in general very poor and moorish.

On crossing the Tame opposite Castle Bromwich, the poor barren moorish light soil gives way to a good red clay loam; and extends east by Coleshill, and west by Birmingham, on both sides of the Tame. At Castle Bromwich, the meadows on each side of the river are of a dark coloured earth, continuing more or less so to Aston. About Aston, Hackley-brook, and Birmingham, is a dry light red sandy soil, well calculated for the turnip culture.

From Sheldon, and Wells-green to Elmdon, Bickenhill, Hampton-in-Arden, Solihull, Barston, Balsall-street, Balsall, Cuttlebrook, Knowle, Monkspath-bridge, Waring-green, Sadler's-bridge, and Beaumont-hill, is principally a strong marl clay land, on a wet clay bottom. From Stone-bridge Inn, on the road from Coventry to Birmingham, and Little Packington, extending northward, and from Great Packington to Meriden, extending south and east, the soil is a dry sandy loam, poor, but well adapted for the turnip husbandry.

At and above Lord Aylesford's park, extending in the direction of Whitacre, there is a track of very poor wet-bottomed land; the effects of which are shown in the stinted growth of the timber, many of the trees being in a state of entire decay, and the whole of the oaks stagheaded. From Meriden to Berkeswell and Barton-green, the soil improves, and all in the direction of Kenilworth and Warwick, is of a red sand and clay loam.

The Barlichway Hundred, the western quarter of the county, bounded on the south-west by Gloucestershire, and on the west by Worcestershire, is supposed to contain 114,107½ acres, the greatest portion of which is in tillage.

From Warwick to Canoway-gate, Pindley Abbey, Lye-green, Preston-Baggot, Clark's-green, Ipsley, Studley, Shelfield-Wootton, Kinwarton, Alcester, Ragley, Woodchurch, Priors-Salford, Ardens-Grafton, Alcocks-arbour, Copmass-hill, Aston Cantlow, Hermitage, Wilncote, and Drayton, the soil in general is a strong clay loam on marl and limestone rock. From Atherston to Stratford-on-Avon, in the direction of Wellesbourn, Tidington, Alveston, Hampton Lucy, and Sherborne, is all fine dry red clay loam, and sandy loam, mostly in tillage. In the strath of the Avon, the soil is equal to that of any county in England. This district is excellently adapted for the turnip husbandry. About two miles from Meerhill, in the direction of Loxley, the soil is a strong clay loam, and good wheat and bean land. On the whole, almost every species of soil is to be met with, except what is incorporated with chalk and flint.

SECT. V.—MINERALS AND FOSSILS.

THE minerals and fossils in Warwickshire, are coal, limestone, freestone, iron, blue flagstone, marl, and blue clay; also a clay, having some of the properties of soap, is found on the estate of the Earl of Warwick; but it has not yet realized the sanguine opinion

Blue Clay—Is found in great abundance in the eastern districts of the county: it has been analysed, and found to contain alkali, and other ingredients used in making soap; and it was supposed this earth might be made to answer all the purposes of soap; but either the expense was too great, or the opinion proved not to have been justly formed, as the continuance of it in the Navy seems to have been abandoned; and for general domestic uses, it would I fancy be very difficult to introduce it, even if its qualities were really all that were supposed.

SECT, VI.—WATER.

THE principal rivers running through the county of Warwick, are the Avon and the Tame. The Avon rises in Leicestershire, enters Warwickshire at Bensford-bridge, and runs in a serpentine form in a south-west direction by Warwick, Stratford-on-Avon, and Bitford, and leaves the county a little below Abbots-Salford. In its course it receives the Dove river a little below Brownsover; the Leam a little above Warwick; the Stour about a mile and a half below Stratford, and the Alne about half a mile below Priors-Salford; it also receives several smaller streams, proceeding in the same direction through Worcestershire, and falls into the Severn at Tewkesbury in Gloucestershire.

The Tame and the Rea rise in Worcestershire, and are joined by two small rivulets, one rising north-west from Birmingham, the other rising north from Upper Wilton, between Castle Bromwich and Birmingham, where it receives the name of the Tame. It continues its course through the north-west part of the county, in a north-a north-east and northerly direction, and receives the Cole, Blythe, Bourne, and Anker, which rise near Shilton, and there takes its course by Nuneaton, Witherley, Polesworth, Amington and Tamworth, where it leaves the county. There are beside many sluggish streams of no note.

The woods near Lord Aylesford's, and at Corley, have been supposed to be higher than any other land in England. From this elevated ridge, the water runs, on one side, into the Avon; and so on to the Bristol Channel; from the other side into the Blythe, Tame, Trent, and Humber, at Hull. As Packington and Corley are near the centre of England, the supposition seems to be well founded.

There do not appear to be any lakes in the county, but there are considerable sheets of water, particularly at Lord Willoughby-de-Broke's, at Compton Verney; at Coombe Abbey, Lord Craven's; at Great Packington, the Earl of Aylesford's; at Ragley-park, the Marquis of Hertford's, and some others, less extensive.

Springs.—The county is well supplied with good wholesome water, where it comes from the limestone. The mineral water at Leamington, has so much increased in repute, that this place, once a small village, has in consequence been greatly enlarged, and it begins to assume the appearance of a town. It has become the resort of families of distinction; and the water having obtained the character of possessing all the qualities of that of Cheltenham, with superior effects, it is supposed by many that Leamington, having the advantage of good roads, and a finer country, will soon rival Cheltenham.

On the north bank of the Avon river, in the Rugby division, and in the parish of King's Newnham, there is a considerable spring, which flows from beneath a limestone rock, where a bath is established. This water is said to be of great benefit to people who are afflicted with scrophulous and scorbutic complaints; water, however, generally speaking, flowing from limestone rock, is said to possess the same qualities.

CHAP. II.

STATE OF PROPERTY.

SECT. I.—ESTATES, AND THEIR MANAGEMENT.

THE state of property in Warwickshire, may be considered as very unequal in its division: the most extensive estate is that of Stone-Leigh, possessed by the Rev. Thomas Leigh, supposed to contain upwards of 25,000 acres; a great proportion of which is very excellent land. There are other proprietors possessing great extent, in the county, namely, the Dukes of Buccleugh and Dorset; the Marquisses of Buckingham and Hertford; the Earls of Aylesford, Clarendon, Spencer, Warwick, Denbigh, Northampton, Abergavenny, Plymouth, and Coventry; the Lords Craven, Middleton, Willoughby-de-Broke, Bagot, Digby, Dormer, Wentworth, Lifford, Clifford, Calthorpe, and Bradford; the Bishop of Lichfield and Coventry (Cornwallis), Sir John Mordaunt, Sir G. A. Shuckburgh, Sir Roger Newdigate, Sir Thomas Gooch, Sir Theophilus Biddulph, Sir John Throckmorton, Mrs. Leigh, Mr. Legge, Mr. Bromley, Mr. Dilke, and many other respectable gentlemen; whose example, and whose liberal encouragement to their tenants, has contributed so much to the improvement of the agriculture of the county.

SECT. II.—TENURES.

The greater part of the county is freehold, though there are many copyholders of some extent; and their tenures, as in all other counties, vary much; but as these are unchangeable, it would avail little to enter into a detail of them. The following instances of their absurdity may be worth noticing.

At Hampton-in-Arden, if a man possessed of an estate marries, and has several children the issue of that marriage, he cannot give it away by will, without his wife's consent, nor does it descend to his children; but the wife, after the death of her husband, has *then* the absolute power to give it to the children of another person, or to whom she pleases. In another manor in the same parish, if a widow marries, without having put her finger into a hole in a certain post, and there craved the consent of the lords of the manor, she forfeits her estate. It is much to be regretted, that such remnants of feudal absurdity cannot be done away.

A very considerable extent of land is held of the Church, principally of the Cathedrals of Worcester and Lichfield. About 500 acres on the south side, adjoining the city of Coventry, the property of the Marquis of Hertford, is Lammas or common, from the 13th of August to the 13th of February; and the quantity of land in the county of Coventry subject to this right of pasturage, is estimated at 3000 acres; a right enjoyed only by the Freemen of the City of Coventry, and not transferable.

CHAP. III.

BUILDINGS.

SECT. I.—HOUSES OF PROPRIETORS.

WARWICK CASTLE, the seat of the Earl of Warwick, is situated on the west bank of the river Avon. This is the only ancient building of the kind in full preservation in the kingdom. This magnificent building has three lofty towers; on the top of each you have a very commanding prospect of all the country around. A large park is attached, and is beautifully interspersed with clumps of fine thriving trees. The buildings are kept in the most perfect repair. The approach and the laying out of the pleasure-grounds, do infinite credit to the Noble Owner's science and refined taste; at once presenting a degree of ancient and modern grandeur hardly to be surpassed.

Ragley, the seat of the Marquis of Hertford, in the south-west part of the county, near Alcester, is a noble mansion, planned and built by Mr. Wyatt. The magnificence of the exterior of this superb building, and its interior elegance, must be acknowledged by the most indifferent beholder. The house is placed on a commanding eminence in the park, fronting the east; the shrubberies, gardens, and park, are laid out in the modern style, with very great taste, and every thing preserved in the highest order. Great improvements have been made by carefully lifting the sward or turf, levelling the high uneven ridges, draining where required, afterwards replacing the turf, and then rolling it well with a heavy roller, which has so cemented it, that the whole park is now like a bowling-green, and is most beautifully variegated with clumps of thriving young trees.

Stone-Leigh Abbey, formerly the seat of Lord Leigh, is a large ancient building, situated on the south bank of the river Avon.

Coombe Abbey, the seat of Lord Craven, is a large ancient building, situated about three miles and a half east of Coventry, in an extensive park.

Packington (situated between Coventry and Birmingham), the seat of Lord Aylesford, is a large modern-built house, affording great convenience and family comfort for a large establishment. The park to this house is of very considerable extent, but in general poor land.

There are many other seats of considerable landed proprietors, to enumerate which particularly, and to point out the beauties of each, would be extending this work greatly. On the whole, it may be remarked, that many of the nobility and gentry have residences equal, in point of convenience and elegance, to those of any other county. In the vicinity of Birmingham, numerous country seats are erected by the wealthy merchants and tradesmen of that place, embellished with neat plantations, to which are attached hot-houses, fruit-walls, coach-houses, and most other conveniences. Amongst these, the villa of Matthew Boulton, Esq. deserves particular notice. The virgin beauty of this place, created from a barren waste, is an eminent proof that genius has but few limits.

SECT. II.—FARM-HOUSES AND OFFICES.

It must be a matter of great importance to agriculture, for the farmer to have a good and comfortable dwelling, with a convenient set of offices for the occupation of his farm. Without them, it is impossible for him to proceed with spirit and vigour in the prosecution of his plans of improvement, or to make the same profit of the land. The farm-house and offices should ever be placed as near the centre of the farm as possible, for on a large tillage farm this makes a very material difference in the expense of labour. In the first instance, the whole of the buildings necessary should be erected in a substantial manner by the landlord, and the tenant should be bound to keep them up during the lease, and leave them in a proper state of repair at the expiration.

In Warwickshire, like most other counties in England, the farm-houses and offices are in general very injudiciously placed, being most frequently at the extremity of the farm. The old farm-houses and offices are built of timber, and mud or clay walls, and thatched; or of stone walls, and thatched: they are very ill planned, and are not convenient. The new farm-houses and offices are built of bricks, and covered with tile, bricks being cheaper than stone, although there is great abundance of it in the county. Bricks are sold at the kilns at 32*s.* to 36*s.* and 38*s.* per thousand, and tiles come much cheaper during the currency of a lease, than thatch, and by using the latter, the land is robbed of dung. Although the new farm-houses and offices are very substantial, yet conveniency is not much studied. The barns resemble those in the North, being small; the corn, being generally built in stacks, does not require them to be so large as in other counties, where the practice is to house most of the grain. The best constructed farm-houses and offices I observed in the county, were upon the estate of the Duke of Buccleugh, in the neighbourhood of Dunchurch.

Few of the stables for the work-horses are divided into stalls. This is a practice so injudicious, that I cannot forbear noticing the mischiefs that must result from it; and they appear to me to be these: Horses, by being thus crouded together, are very liable to accidents, by the vicious temper of some; and those who are more gentle, will never get their fair share of food; nor can they take rest with the same comfort as when the stall is properly divided; and the injury a valuable horse may receive in one night, from the kick of a bad-tempered animal, might prove a greater loss to his owner, than the whole expense of the necessary subdivisions in a stable, which when once erected, would prevent accidents, and last for many years.

There are no open sheds for wintering cattle, or feeding sheds for soiling with turnips and other green food, nor any sheds for the horse-course of the thrashing-machines. Indeed there are very few of these useful machines in the county, and those I saw were of little value.

SECT. III.—REPAIRS.

It is customary for the landlord to allow the tenant rough timber, and other materials, for making repairs, the tenant being at the expense of carriage and workmanship.

SECT. IV.—COTTAGES.

In many parts of the county, the old cottages, or houses for labourers, are built of clay, and thatched: these, compared with those lately built, are poor miserable hovels indeed. I observed a long row of very good and convenient cottages a few yards off the road, about a mile and a half west from Dunchurch. In many other parts of the county there are good and substantial cottages, some built of stone, and some of brick, tiled and thatched. Few of them are let with the farms, though when they are, it must be of a most essential benefit to the farmer, as being the means of his procuring more steady servants, and upon more moderate terms. The new-built cottages have three apartments in them; a large one, where the family sit, and cook their food; the other two are sleeping places. There is, in general, a large garden attached to each house, which I observed was usually kept clean, and in good order.

The servants of farmers are so valuable a class of people, that their comfort should in all respects be considered; and in none is it so essential as the providing them with comfortable cottages on the farm. These may always be built at a small cost, and being under the eye of the farmer, the conduct and morals of his servants may be expected to be better. They will not, as now is too much the case, be driven into towns and villages far from the farm, for a residence, where, having ready access to public-houses, they are apt to spend both their time and money, be led into dissipation, often abandon their families in consequence, and thus increase the poor-rates in a high degree. Whereas, were cottages always provided on a farm, these evils would in a great degree be prevented; and a farmer would have a controul and command over his servants' time and conduct, that he cannot possibly have, when, the moment their day's labour ceases, he sees them no more until they return to it.

To each cottage a reasonable space should be added for a garden; and if the keep of a cow on the farm could be allowed, as is the general practice in Scotland, the comfort to the cottager and his family would be considerable.

The rents of cottages vary in different parts of the county, from 1*l*. 10*s*. to 2*l*. 3*l*. and 4*l*. per year.

CHAP. IV.

OCCUPATION.

SECT. I.—FARMS.

THE size of farms in Warwickshire, from what I could learn, runs from 50 to 500 acres; very few exceed that extent, and many containing not more than 50, 100, 150, 200, 250, and 300 acres. Mr. Wedge at Packington, who from his long experience must have had opportunities more favourable than most people, for ascertaining the truth on this head, reckons that 150 acres are about the average of the county; the average size of the new enclosures about 15 acres, and the old about 10 acres. In the eastern district of the county, the farms are large; in the west, and north-west, in general small.

There appears to be a disposition amongst the landlords, when the small farms fall in, to increase them in size, by laying two or three of them together. On the Duke of Buccleugh's estate at Dunchurch, and on Lord Craven's at Coombe Abbey, I understood the size of farms to be more equal than on any other properties in the county. Lord Craven's estate is supposed to contain between 7000 and 8000 acres, let to 20 tenants.

A great deal has been said and written on the subject of large and small farms, as to their respective benefit to the country. To enumerate all the arguments for and against, would fill a volume; but there can be little doubt, that, since farms were increased in size, the face of the country has undergone a very material change for the better, in its state of husbandry. Large farms are wrought at a much less expense; and I am clearly of opinion, produce a much larger proportion of marketable food than small ones. Had not a consolidation of small farms been adopted, the inhabitants of these kingdoms must have been subjected to starvation, owing to the great increase which has taken place in the population; an increase so great as to exceed credibility, if the population returns made to parliament in January 1812, did not establish it beyond a doubt.

SECT. II.—FARMERS.

THE character of the farmers in Warwickshire, like other counties, varies as much as the size of the farms. There are to be found in the more remote parts of the county many small farmers, who are exceedingly shy and jealous in communicating their modes of farming, although it is very evident there is nothing new to be learned from them, even if they were communicative. The only information required, is, the facts as to the present state of agriculture, which there is hardly a possibility of getting. Even in the very best district of the county, farmers of the same description are often to be met with; and I wish I could say that this jealousy was confined to the farmers only. It is to be regretted, that sometimes people of large property and liberal education are unhappily the dupes of those about them; and though perhaps willing of themselves to afford information, are biassed by their bailiffs, and act contrary to their own original good intentions.

In confirmation of this remark, I beg leave to state a fact which happened to myself. In the prosecution of this Survey, I waited on a clergyman, a gentleman of good property, and producing my credentials from the Board, requested his assistance in furnishing me with any information in his power, so as to enable me the more perfectly to draw up my Report. He received me very politely, and seemed willing to further the object I had in view: he said that he knew very little about farming himself, but would send for his bailiff, who was an intelligent man, and could give me a great deal of information, not merely concerning his own extensive property, but the properties adjoining; and in the meantime he would write a letter to one of his tenants, whom he conceived very competent to afford me the details of the system of farming in his district. However, the bailiff arrived before the gentleman had well begun his letter, got closeted with his master, over whom he had an unbounded influence, and persuaded him that it would be a very dangerous measure to give me any information; and that instead of giving me a letter to his tenant, it would be much better for him to go with me to him, for fear, as I supposed, that he should be too communicative in telling me the rents they paid, which are a mere feu-duty, only 16*s*. to 18*s*. per acre, for some of the best land in the county of Warwick. My suppositions were well-founded; for when we arrived at the tenant's, the bailiff made his way into the house as quickly as he could, got closeted with the tenant, and no doubt communicated to him his apprehension of the danger that might attend his giving me any information: that the rents would be raised, and every thing would be against him. The consequence was, that the tenant was alarmed by the misrepresentations of the bailiff;

liff, and immediately on my being introduced to him, he at once told me he did not see any advantage the county of Warwick would derive from such a Survey; that it must do a great deal of hurt instead of good; and that such being his opinion, he declined giving me any information on the different heads of queries I meant to put to him. If it had not been for the ignorance, or mischievous interference of the bailiff, I have no doubt I should have derived much valuable information from the tenant, who, I was informed, was a man that stood as high in his profession as any in the county. From motives of delicacy I decline mentioning names; but I vouch the fact.

From this instance of ignorance and jealousy I turn with pleasure, to offer my respectful acknowledgments to gentlemen, whose education and liberal ideas enabled them to comprehend the views of the Board, and the good that must result from the completion of the County Surveys. From Sir Charles Mordaunt of Walton, Mr. Wilmot of Coventry, Mr. Wedge of Great Packington, Mr. Gibbs at Henley, Mr. Morgan at Cotton, Mr. James at Warwick, and Mr. Umbers at Warwick-Park, I received much useful information; and I am happy in the opportunity of making this avowal of their attentions.

SECT. III.—RENTS.

If we except that part of the county of Warwick which lies in the immediate vicinity of Birmingham, Warwick, and other populous towns, the rents of this county are low, considering the generally excellent quality of the soil, and its local advantages for the export and consumption of its produce. The best grass land for pasture, lets from 2*l.* to four guineas per acre; the arable land from 18*s.* to 25*s.*, 30*s.*, 42*s.*, 50*s.*, and some at three guineas per acre; the meadow land from 2*l.* to 5*l.* 10*s.* to six guineas per acre: accommodation land near the towns, lets from four to six guineas per acre; garden-ground as high as 10*l.* to 15*l.* per acre.

In many parts of the county the rents are very much under what I have quoted; I suppose the average rent of the whole county would amount to 29*s.* per acre. The rents in general are paid in money through the whole of the county. As the leases fall in, and a renewal is granted, a very considerable advance of rent takes place, as in other counties; yet there is room on many large estates in this county for an additional advance of rent.

SECT. IV.—TITHES.

The farmers in Warwickshire complain of tithes, as in other districts, and wish that they could be converted into a corn rent, or some fixed payment; but their complaints are more generally directed against the lay impropriators than the clergy, the former being more rigid in their exaction than the latter. Most of the old enclosures through the county are subject to tithes, which in many instances are compounded for, at the rate of from 6*s.* to 12*s.* per acre on the tillage land; on the meadow and pasture lands from 1*s.* to 5*s.* 6*d.* per acre; and lately, as high in some places as one seventh of the rent. Enormous as this is, some are not satisfied with it, but collect their tithe in kind.

The new enclosures are exonerated; where they take place, a proper proportion of land is set off in lieu of tithes.

tithes. It would be a great national advantage, if the proprietors of landed property throughout the kingdom, had an opportunity of purchasing their tithes; the amount of the purchase money to be invested in the funds of the nation, as security to posterity for the principal.

SECT. V.—POOR'S-RATES.

THE poor's-rates in the county of Warwick vary much in different parts of it; I should suppose the average about 5*s*. 6*d*. in the pound on the rents. At Warwick, Coventry, Birmingham, Alcester, and other manufacturing towns, the rates generally run high; from 10*s*., and 12*s*. to 15*s*. in the pound, which becomes a very great cess upon the landed property of the country. The poor's laws through England in general are badly administered; very great abuses exist in the management of the money collected for the support of the poor, and great encouragement is given to the labouring class, under the present establishment, for indolence, laziness, and dissipation. If the Landed Proprietors throughout England would encourage the building of cottages on proper parts of their estates, for the labouring poor, and if the number of ale-houses were greatly reduced, I am persuaded that a considerable decrease in the poor's-rate would be the happy result, and the morals of the poor be much benefited.

SECT. VI.—LEASES.

A GREAT proportion of farms in Warwickshire, are held by tenants at will, who are under agreement from one year to another. There are very few old leases in the county, and as these fall into the proprietors, few new ones are granted. Where a renewal takes place, the term in general is seven or fourteen years. I have heard many arguments used by proprietors, against letting their lands on lease; most of which I consider very superficial. The principal one is the great decrease in the value of money, and that if they let a lease for 14 or 21 years, at the end of that period they calculate on the great advance in the price of provisions, that the rent they receive is equal only to 10*s*. in the pound. It is true, money, for the last 21 years, has decreased greatly in value, but there is no reason to suppose that this decrease is to continue for 21 years to come. To obviate this objection of the landlords to granting leases of 14 and 21 years, I would propose, that before the period expires, and when the rent bears so very little proportion to the price of every necessary of life, as at its commencement, that a certain proportion of the produce of the land in kind shall be named to be taken instead of money-rent; and that proportion to be converted at an average price of the commodity, according to the produce of such soils, equal in quality, and equally situated for climate: in this case, the Landed Proprietor would always have an equal chance, but the tenant would be deprived of that speculative chance of gain, as if he had only money-rent to pay. It must be obvious to every person, that no one will lay out money without some security for getting it back again; and will any person tell me, that there is any inducement for a tenant to lay out money on a farm for one, or seven years term, where it is evident to every one acquainted with rural affairs, that in expending money on so short a tenure, there is no time for it to come round. A tenant may take a farm that is in a very good state of cultivation on a short term, with safety to himself, and his landlord also; but where land is in an exhausted state, a short term must be injurious both to the landlord and tenant. The duration of a lease should depend principally upon the state of the farm at the time it is to be let: where land is in a ruined state of cultivation, run out, and a great deal to be done to it, such as draining, raising new fences, straightening crooked ridges (which of course must require a large capital to be laid out, so as to bring it into a good state of cultivation), then the lease ought at least to be 21 years, that the tenant may have time to bring his capital round, so as to enable him to keep his farm in the very best state of culture, to repay him handsomely for his trouble and outlay.

In conducting these improvements, especially on a clay soil, the process is slow, for the farmer must be cautious how he proceeds: by bad management, and his want of discernment, he may sour the land, and put it into such a state, that it would take years to bring it round. In these operations, it is evident a very large capital must be sunk for a considerable length of time, subjecting the farmer to much risk and loss of profit for some time after finishing his improvements.

The leases and agreements entered into by the landlords and tenants in Warwickshire, from what I could learn, are not properly drawn, so as to prevent the deterioration generally practised by tenants on their getting notice to quit, or towards the end of their lease: in these short tenures you have deterioration of property practised every two, or three years; on tenures of seven years, three times in 21 years; when, if the farms were let on lease for 21 years, such deterioration would only happen once in that period.

The heads of the agreements and leases between landlords

lords and tenants in Warwickshire, as I understand, generally run as follows: First, from the date of the entry, which in general is the term of Michaelmas to the corn farms, and to the grazing lands the 2d of February, the duration or length of the term; 2dly, The tenant to pay his rent quarterly, and some half yearly; 3dly, The landlord to put all the buildings, gates, and gate-posts, in good repair, or allow the tenant a sum of money, with materials in the rough for doing so, and rough timber for keeping them in repair; 4thly, Tenant to keep them in good repair; also the fences and ditches, and leave them so at the end of the term; 5thly, The landlord reserves all timber and timber-like trees, the bodies of pollards; also all mines and minerals, with liberty to cut and fell timber, and carry it away, dig and work all minerals, paying surface damage to the tenant; 6thly, The landlord reserves also the right of hawking, hunting, fishing, and fowling, in, over, and upon the lands, with his companions, doing no wilful damage to the farm and lands; 7thly, The tenant shall not break up any meadow or old pasture land, under a penalty, without the consent of the landlord in writing; also in a number of instances, shall not mow the meadows twice in the same year; 8thly, Tenant to manage the meadow, pasture, and arable lands in a good and husbandlike manner, (although in a number of instances the tenant takes two white crops running, and sometimes three, without much fault being found); 9thly, The tenant to fodder and consume the hay, straw, and chaff on the farm, except in the vicinity of large towns, where plenty of dung may be got in return; 10thly, Tenant to bestow, spread, and use all the dung, muck, and manure, made or arising on the farm, regularly every year upon the farm and lands, and to leave the whole upon the farm and lands at the expiration or end of the term; 11thly, Tenant not to sow brash wheat, rape, flax, or hemp, and in a number of instances brash turnips; 12thly, Tenant to leave a certain proportion of land in fallow and young clovers; also all the straw, chaff, muck, dung, and manure at the end of the term; 13thly, Tenant, upon non-performance of covenants, or failing to pay the rent when legally demanded, to be subject to ejectment. In several instances, in case of tenant's bankruptcy, there is a clause to prevent the lease being taken in execution by the sheriff. There is no necessity for restraining clauses being put into leases where farms are let to good and substantial tenants, except within four years of the expiration of the lease, when it is necessary.

A system should be laid down, in case the landlord and tenant should not agree for another lease, to prevent the tenant from deterioration on the premises; and at all entries to farms, in the first place the landlord should put the dwelling-house, and all the out-houses, cottages, fences, ditches, gates, and gate-posts, in good and sufficient repair, and the tenant to be under covenant to keep them so, and to leave them so at the end of his lease; their sufficiency to be settled by two judges: The tenant, on entering, to take all the straw and hay not consumed, dung, muck and manure, fallows, lays, clovers, &c. at a fair appraisement, to be paid to the outgoing tenant; and the like privilege granted to him at the end of his lease. This is a much better plan for the tenant, and it is a safeguard for the landlord; because no one can come into a farm in that way, but those who are possessed of a considerable capital and substance, as the money is to be paid by the incoming tenant when the valuations of the straw, chaff, dung, fallow, half-fallow, dressing, half-dressing, lays, young clovers and seeds are made, and the appraisers give in their award.

SECT. VII.—EXPENSE AND PROFIT.

There is very great difficulty in obtaining the truth on this head: farmers, like other people in business, are shy in laying open their affairs to any one, and now more so than ever: in the first place, for fear their landlords should get hold of it, and thus be the means of an advance in their rent the first opportunity; and, in the second place, for fear the Commissioners of the Income Tax should be made acquainted with it, and raise the duty on them. Farmers in general keep no books in a minute or regular manner; it is not therefore in their power to give the particulars of their expense and profit correctly, only in a rough way.

It is necessary in the first place, to ascertain, as nearly as possible, the expense of stocking a farm in Warwickshire; or the gross sum that it will take, per acre, and which a farmer ought to have, before he enters on a farm; but this circumstance depends greatly on the state of cultivation that the farm is in when the tenant enters; if in a good state of culture, it will require much less; in a bad, it will require considerably more. The farmer should not only have what will purchase his stock, and carry on the expense of labour until he receives the new crop, but he should have a year's rent at command, to prevent any sacrifices being made in his property for want of money, for necessary demands that may arise.

The following calculations, show nearly the expense attendant on entering on a farm of 200 acres in Warwickshire.

Expense of stocking a Farm of 200 Acres, Clay Soil, and managing it, paying for keep of the House, and paying One Year's Rent.

	£	s.	d.
Ten work horses, at 40*l.*	400	0	0
One riding ditto,	40	0	0
Two large four-horse waggons, at 55*l.*	110	0	0
Five two-horse carts, at 20*l.*	100	0	0
Three ploughs, at 4*l.* 4*s.*	12	12	0
Ten harrows,	15	15	0
Harness, cart, and plough,	50	0	0
Two rollers,	12	0	0
Drags, rakes, forks, dung drags, fans, barn implements, sacks, and sundry other things,	30	0	0
Labour,	320	0	0
Maintenance of horses,	330	0	0
Seed,	180	0	0
Rent, at 40*s.*	400	0	0
Tithe rates, king's taxes, &c.	160	0	0
Keep of the family,	200	0	0
	£2360	7	0

On this statement, it would require 11*l.* 16*s.* per acre; but as the prices vary in general so much in different districts, we may fairly conclude, that upon an arable farm, according to the system practised in the county, it would be more desirable than otherwise, to have 13*l.* to 14*l.* per acre, to do the farm justice.

On an arable farm, the expense and profit depend so much upon the capital, skill, activity, and judgment of the farmer, that without these are combined, it is impossible to make the most of the land; and where locality of conveniences, and these qualifications of the farmer, go together, on such soil as prevails in general in Warwickshire, the farm should turn to good account; but as these are very seldom to be met with, it would be unfair and unsafe to draw a general conclusion relative to the County, or even from any district, as to the profits of any individual farm.

Although great improvement might be made on the grazing farms throughout the County, yet, as the management of them is better understood than the arable farms, they must produce a very superior profit to the farmer, if rated according to their respective value, and equally situated. The following calculations, made partly from my own observations, and partly from the information I could collect, will tend in a certain degree to show the expense, and produce and profit, on the different soils throughout the County.

Expense per Acre, of thin Clay Land, *under the Rotation of Fallow, Wheat, Beans, Barley, Clover, Oats.*

First Year, Fallow; Second Year, Wheat.

	£	s.	d.
Five ploughings of four, and sometimes five horses (a man and boy at 18*s*.), ...	4	10	0
Harrowings, at 1*s*. 6*d*.	1	2	6
Lime, carriage, and labour, ...	2	10	0
Seed wheat, at three bushels, and sowing, &c.	2	17	0
Reaping, and getting in, ...	1	0	0
Thrashing six sacks of wheat, cleaning, and making it ready for market, ...	0	13	6
Carrying it to market, six miles, ...	0	4	0
	£12	17	0

Third

Third Year, Beans.

	£	s.	d.
Two ploughings,	1	16	0
Harrowing,	0	9	0
Seed, and sowing, 50*s.*	1	18	0
Hoeing twice,	0	16	0
Reaping, and getting in,	0	18	0
Thrashing, and cleaning and dressing,	0	3	6
Carriage to market, six miles,	0	4	0
	£6	5	0

Fourth Year, Barley.

Two ploughings,	£1	16	0
Harrowing,	0	9	0
Seed, and sowing, 40*s.*	1	2	0
Mowing, and getting in,	0	12	6
Thrashing three quarters, and cleaning and dressing,	0	9	0
Carriage to market, six miles,	0	4	0
	£4	12	6

Fifth Year, Clover.

Seed, and sowing,	£0	13	0
Mowing once,	0	4	6
Making, and getting in,	0	9	0
	£1	6	6

Consumed on the farm.

Sixth Year, Oats.

	£	s.	d.
One ploughing,	0	18	0
Harrowing,	0	6	0
Seed, and sowing,	0	19	0
Mowing, and getting in,	0	11	0
Thrashing, cleaning, and dressing,	0	9	0
Carriage to market, six miles,	0	4	0
	£3	7	0
Rent, 25*s.* per acre (tithes taken in kind), 6 years,	7	10	0
Tithes taken in kind,	4	0	0
Poor's-rate, church-rate, income tax, road-duty,	2	11	0
	£14	1	0
Fallow, limed and dunged, and wheat,	12	17	0
Beans,	6	5	0
Barley,	4	12	6
Clover,	1	6	6
Oats,	3	7	0
	£42	9	0

Produce.

	£	s.	d.
Wheat, 8 sacks of 3 bushels, nine-gallon measure, 3 qrs. at 120*s.*	18	0	0
Beans, 28 bushels, do. 3½ qrs. at 50*s.*	8	15	0
Barley, 26 bushels, do. 3¼ qrs. at 40*s.*	6	10	0
Clover, consumed on the farm,	3	10	0
Oats, 30 bushels, 3¾ qrs. at 30*s.*	5	12	6
	£42	7	6
Amount,	£42	7	6
Expense,	42	9	0
Which being divided by 6, gives loss per acre	£0	1	6

Expense per Acre, of Red Sandy Loam *on Freestone Rock, on a Farm under the Rotation of Wheat after Leys, Turnips eaten off by Sheep, Barley and Seeds, Clover eaten by Sheep.*

	£	*s.*	*d.*
Ploughed once,	0	18	0
Harrowing,	0	9	0
Seed, and sowing, two bushels and a half,	1	18	6
Reaping, and getting in,	1	0	0
Thrashing, cleaning, and dressing 8 bags, 4 qrs.	0	17	6
Carriage to market, five miles,	0	4	6
	£5	7	6

Second Year, Turnips.

Three ploughings,	£2	14	0
Harrowings,	1	7	0
Seed, and sowing,	0	3	0
Two hoeings, at 6*s.* 6*d.*	0	13	0
	£4	17	0

Third Year, Barley.

Two ploughings,	£1	16	0
Harrowing,	0	9	0
Seed, and sowing, three bushels and a half,	0	18	3
Mowing, and getting in,	0	13	6
Thrashing, cleaning, and dressing six quarters,	0	18	0
Carriage to market,	0	5	0
	£4	19	9

Fourth

Fourth Year, Clover ate off with Sheep.

	£	s.	d.
Rent per acre, 2*l.* 2*s.*, 4 years.	8	8	0
Tithes compounded, wheat 9*s.*, turnips 3*s.* 6*d.*, barley, 6*s.* 6*d.*, clover 4*s.* 6*d.*,	1	3	6
Poor's-rate 5*s.*, church-rate, income tax, statute labour, &c.	2	6	0
	£11	17	6
Wheat,	5	7	6
Turnips,	4	17	0
Barley and seeds,	4	19	9
Clover,	0	15	6
	£27	17	3

Produce.

	£	s.	d.
Wheat, 8 to 10 sacks per acre, 4 qrs. at 6*l.*,	£24	0	0
Turnips,	2	0	0
Barley, 5 qrs. at 40*s.**	10	0	0
Clover, eaten off by sheep,	3	0	0
Produce,	£39	0	0
Expense,	27	17	3
	£11	2	9
Divided by 4, will give	£2	8	2¼

Expense per Acre, on good Clay Soil on Marl or Limestone Rock, *under the Rotation of Beans after Lays, Wheat, Fallow, Wheat, Oats and Seeds.*

Beans.

	£	s.	d.
Ploughing,	0	18	0
Harrowing,	0	9	0
Seed, and sowing five bushels per acre,	1	13	6
Hoeing twice,	0	16	0
Reaping, and getting in,	0	18	0
Thrashing, cleaning, and dressing them, 45 bushels,	0	5	6
Carriage to market,	0	5	6
	£5	5	6

Second Year, Wheat.

Ploughing,	£0	18	0
Harrowing,	0	9	0
Seed, and sowing three bushels,	2	6	0
Reaping, and getting in,	1	0	0
Thrashing, cleaning, and dressing 33 bushels,	0	17	6
Carriage to market,	0	4	0
	£5	14	6

Third Year, Fallow.

Six ploughings,	£5	8	0
Harrowings and rolling,	1	7	0
Lime, at 22 quarters per acre, and carriage,	3	5	0
Dung, at 22 loads, leading out, and spreading,	1	6	6
Carry forward,	£11	6	6

Fourth Year, Wheat.

	£	s.	d.
Brought forward,	11	6	6
Ploughing and harrowing, water-furrowing, &c. included in the preceding.			
Seed, and sowing three bushels,	2	6	0
Reaping, and getting in,	1	0	0
Thrashing, and cleaning and dressing 36 bushels,	1	0	0
Carriage to market,	0	5	0
	£15	17	6

Fifth Year, Oats.

One ploughing,	£0	18	0
Harrowing,	0	9	0
Seed, and sowing five bushels,	0	18	9
Mowing, and getting in,	0	11	6
Thrashing, cleaning, and dressing 6 qrs.,	0	18	0
Carriage to market,	0	6	0
	£4	1	3

Sixth Year, Clover.

Seed, and sowing,	£0	15	6
Fed with sheep for one, two, and three years.			
Rent two guineas, tithe-free, six years,	£12	12	0
Poors'-rate, income tax, statute labour, church-rate, and other taxes, &c.	2	16	6
	£15	8	6
Beans,	5	5	6
Wheat,	5	14	6
Fallow, Wheat,	15	17	6
Oats,	4	1	3
Clover,	0	15	6
	£47	2	9

Produce.

	£	s.	d.
Beans, 15 sacks, at 3 bushels per sack, is 45 bushels, 5 qrs. and 5 bushels, at 50*s.* per quarter, ...	£14	1	3
Wheat, 8 sacks, at 3 bushels per sack, is 24 bushels, 3 qrs., at 100*s.* per quarter,	15	0	0
Wheat, 12 sacks, at 3 bushels per sack, is 36 bushels, 4 qrs. 4 bushels, at 100*s.* per quarter, ...	22	10	0
Oats, 6 qrs., at 30*s.*, ...	9	0	0
Clover, eat off, ...	3	0	0
Produce, ...	£63	11	3
Expense, ...	47	2	9
	6) 16	8	6
	£2	14	9

Which is at the very highest rate of produce I could learn in the county.

Expense per Acre, on light poor Sandy Soil, *on a Farm under the Rotation of Turnip Fallow from Turf; Turnips eaten off by Sheep; Barley and Seeds; Clover eaten off by Sheep.*

One turnip fallow and turnips.

	£	s.	d.
Five ploughings, ...	4	10	0
Harrowings, &c.	0	18	0
Liming, at 20 qrs. per acre, and carriage,	3	0	0
Sowing, and seed, ...	0	3	0
Carry forward, ...	£8	11	0

	£	s.	d.
Brought forward,	8	11	0
Rolling,	0	2	6
One harrowing,	0	1	0
Twice hoed,	0	12	0
One ploughing for barley,	0	18	0
Harrowing,	0	6	0
Seed, and sowing three bushels and a half,	0	18	0
Mowing, and getting in,	0	12	0
Thrashing, cleaning, and dressing 5 qrs.	0	15	0
Carriage to market, five miles,	0	5	0
	£13	0	6

Third Year, Clover.

	£	s.	d.
Seed, and sowing,	£0	15	6
Rent, 1*l.* per acre,	1	0	0
Tithe 13*s.*, poor's-rate 3*s.*, church-rate 6*d.*, income tax, 1*s.* 6*d.*, road-duty, 2*s.*,	1	2	0
	£2	2	0
Turnip fallow, and barley and seeds,	13	0	6
Clover seeds,	0	15	6
	£15	18	0

Produce.

	£	s.	d.
Turnips,	£3	3	0
Barley, 5 qrs., at 40*s.*,	10	0	0
Clover, eaten off with sheep,	3	0	0
Produce,	£16	3	0
Expense,	15	18	0
	£0	5	0

Which appears to leave very little indeed; but the great expense of the turnip fallow eats up the profit.

Expense per Acre, on a Grazing Farm or Dairy.

	£	s.	d.
Rent,	3	3	0
Tithe 5s., poor's-rate 4s. 6d., income tax, and road duty,	0	18	0
	£4	1	0
Proportional expense of a man,	0	5	0
	£4	6	0
Say that this land will keep six large sheep an acre, at 25s.	7	10	0
Which leaves this sum for interest of stock and risk,	£3	4	0
If used as dairy, expense as above stated,	£4	6	0
Produce, 2½ cwt. of cheese per acre, at 70s.	8	15	0
Which leaves	£4	9	0

Butter, and refuse of milk, is supposed to pay all other charges.

These calculations, no doubt, will appear to leave a high profit on the grazing land; but the grazing system being much better understood than the corn farming, it appeared to me, in going over the different districts of the county, that the grazing farmers must be much better paid than the corn farmers. These calculations must not be considered as the real average of the county, for to obtain it exactly, is next to an impossibility: the rent stated is low; for of such soils laying locally, and in a good climate, if managed on a different system, the rent would advance greatly. It should be remembered, that no degree of certainty can be attained on the head of real expense and profit; whoever is acquainted with the management of land, must perceive it, for a great deal depends on the seasons, and also on the activity and judgment of the husbandman. There does not appear any great wish in the farmers of Warwickshire to extend their farms much beyond the present size; which are generally small. When a tendency is shown by them to extend the scale of their farming concerns, it evinces an accumulation of capital, and it is a proof, where it happens, that agriculture is in a flourishing state. Cheap farms, in general, are a drawback on industry and improvements: Farmers that have cheap farms *may* farm well, but those that have dear farms, *must* farm well, or their career will soon terminate.

CHAP. V.

IMPLEMENTS.

SECT. I.—PLOUGHS.

THE ploughs generally used in Warwickshire, are the double and single improved Rotherham, with wheels, the dimensions of which are—the double plough, the length of the beam 7 feet 6 inches, by 3 inches and 4 inches, and are distant one from the other about 3¼ inches; the length of the stilts, to where the beam is mortised, is about 3 feet 8½ inches; one large wheel next the muzzle that goes in the fur diameter 1 foot 9 inches to 10 inches, and the small wheel that goes on the land is about 1 foot 1 inch; from the point of the share to the end of the sole about 2 feet 10 inches, to 2 feet 11 inches; width at handles 2 feet 6 inches. In the single plough, length of the beam 6 feet 2 inches, by 4½ inches side, and where the coulter goes through the beam, 4 inches; length of the stilts to the mortise of the beam, 4 feet 2 inches to 3 inches; distance from the points of the stilts about 2½ feet; length from the point of the share to the end of the sole 3 feet; wheels the same dimensions as before stated, 1 foot 9 inches, and 1 foot 1 inch; has a shifting muzzle.

The large swing plough is in general use in that part of the county next Worcestershire; and in two or three places I saw Small's Scotch swing plough used by proprietors, but not by farmers.

The prices generally paid for a double plough, fully mounted, are five, seven, and eight guineas, according to the way the plough is finished off; for a single plough, as before described, complete, three to four guineas; for the old large swing plough, about three pound to three guineas; Small's swing plough complete, about four guineas.

The double plough is drawn by five and six horses in a line one before another, two men, or a man and boy attending, and takes two furrows at once, about eight inches in breadth, and from five to six inches in depth; this plough is mostly used on light soils. It would not answer well on strong clay soils, except they were well pulverized. The single plough is drawn by three and four horses, yoked one before another, a man holding, and boy driving, and takes a furrow about nine inches to nine inches and a half, in breadth; depth about five to six inches. This plough, when the irons are in good order, does its work well.

The large swing plough, drawn by five horses yoked one before another, a man holding, and another man or a boy driving, takes a furrow from ten inches and a half to eleven inches in breadth, and five inches and a half to six inches in depth; this plough, on strong clay land, does its work well.

Small's swing plough, drawn by two horses abreast, with a man holding and driving at the same time, takes a furrow nine inches in breadth, and five to six inches in depth; this plough is capable of performing its work well, when perfectly understood; but where I saw it worked, the men did not understand the management of it, which caused it to make work inferior to the other ploughs in use.

SECT. II.—HARROWS.

The harrows are much the same as those used in other counties; five bulls or bars in each, about four feet long, with six tines or teeth in each bar; the price about 3*l.* to 3*l.* 3*s.* new.

The large break or drag harrow, commonly used on strong lands, differs little from those used in other counties; very strongly made, price about 4*l.* to 4*l.* 10*s.*

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SECT. III.—ROLLERS.

Most of the rollers used in Warwickshire are made of oak. The farmers have two kinds; a light roll, and a heavy one. There are some made with an upright frame and shafts, and some are mounted only in a plain frame, and drawn with traces. The light roller is from six to seven feet in length, and about one foot in diameter; the price varies according to the mounting: the large roller is from seven to eight feet in length, and about 30 to 33 inches in diameter; the price of them varies also according as they are mounted. I saw no iron rollers used by the farmers, but several used by landed proprietors, especially at the Marquis of Hertford's at Ragley-Park, where it has been in general use in compressing the turf when it was laid on, after the old high gathered ridges were levelled down.

SECT. IV.—DRILLS.

I MET with the wheat drill in almost every part of the county, but more especially between Stratford-on-Avon and Coventry. They are the same as those used generally in most other counties. I saw no turnip nor bean drills. The drill husbandry is very little practised in this county; only by a few individuals.

SECT. V.—HORSE-HOES.

As the drilled husbandry is not much practised in the county, horse-hoes are but partially used, and those I saw differed but little from those in other counties.

SECT. VI.—THRASHING-MACHINES.

THRASHING-MACHINES are to be met with in different parts of the county, but in general on a small scale; and in the manner they are constructed, can do very little work. The number of hands employed at them must cost the farmer more than if he was to thrash his crop in the old way with the flail. In my opinion, these thrashing mills will not thrash more than seven to eight quarters per day.

Mills of two-horse power will never answer; four-horse power is found little enough to thrash, shake the straw, and winnow the grain; and without they are constructed so as to perform all these operations, they are not worth having. There are no thrashing-mills that have been yet made, equal to those constructed by the late George Muckle, which have a large spur-wheel, and will thrash thirty quarters per day. It is impossible to erect a good substantial four-horse mill, with every appendage, for less than from 250*l.* to 300*l.* The saving of a few pounds, in comparison of having a good instead of a bad machine, should never be an object, for by performing the work well, the mill will very soon save the additional expense.

SECT. VII.—WINNOWING-MACHINES, OR FANNERS,

Are not generally used in Warwickshire, the farmers preferring the large sail fans to clean their corn. The fanners I saw were so short, and crammed with riddles inside, that they must be very heavy to work, and always be choaking up, when there is much chaff to separate. Proper constructed winnowing-machines should have no riddles inside; they should be made about eight feet long, and have a roller inside of the hopper to feed down the corn gradually on the wind, and a wire screen for the corn to fall on, (so as to take out the sand), which should shake backwards and forwards by means of a crank on the end of the axle of the flees. It is very extraordinary, that winnowing-machines are not in general use, being, when well constructed, more handy for cleaning the corn than the old mode of the sail fan.

SECT. VIII.—SOWING CUTTS, OR TROUGHS,

Are the same in Warwickshire as are generally used in other counties for sowing the grain. It appears to me, that a sheet is much better for sowing grain out off than these troughs; for the man that sows with the sheet must have far more freedom in his step, than the man that sows with the trough, and as regularity in the step is considered of equal importance with that of the hand, it is natural to infer that the person who sows with the sheet must sow the seed more regularly than the person who sows with the trough. But the trough has this advantage over the sheet, that the sower can help himself with seed from the sack; whereas the man sowing with the sheet must have a person to carry the seed to him; this advantage, however, when properly conisdered, is very little, compared with the facility in getting through the work with the other; and by having a person to carry the seed to the sower, there is less chance of his missing any part of the land, than if he moved off his station to fill his trough, and thereby perchance miss the place at which he left off.

SECT. IX.—WAGGONS AND CARTS.

THE carriages in use throughout the county, are the large four-horse waggons, and two and three horse turn-up carts, wheels six to nine inch tyre, which are made remarkably strong, and are extremely heavy for the horses to draw. The prices paid for the four horse waggons are from 45*l.* to 50*l.* and some as high as 60; the carts are from 18*l.*, 20*l.* to 25*l.*

CHAP. VI.

ENCLOSING.

THE extent of commons and unenclosed land in Warwickshire, is much less than is to be met with in most counties in England. The spirit for enclosing has been pretty general through the county, and in my opinion, if the example were followed up in every other county, commons would soon be a rare thing to be seen.

About fifty years back, the south-eastern part of the county was very much in common, but is now all enclosed and subdivided. The only common I met with, of any considerable extent in that quarter, is at Long Compton, and an Act has been since obtained for enclosing it. There are small commons still remaining in different parts of the county, the greater part of which would not pay the expense of obtaining a bill for enclosing them. Although the expense of enclosing is very great, yet the beneficial effects resulting from enclosures, are generally felt throughout the county. With regard to an increase of produce, *that* is evident to every person, for it must be admitted, that the land that formerly kept a few half-starved sheep, is now yielding abundance of both grass and corn.

SECT. I.—FENCES.

THE fences of white-thorn, where no trees have been planted in the bank, are generally very good; but the hedges are allowed to remain too long without being cut. The practice is to cut them every eight or nine years, and then they are plashed, which in my opinion ruins the hedges. White-thorn hedges, properly kept, should not be allowed to be higher than five feet, and when cut, should be all clean cut, and regularly switched up every year, to keep them in good order. The clean cutting preserves the thorn, and causes the hedge to grow much closer at the bottom, under this plan of management, than any other. To make a good hedge at first, the land should be well fallowed, dunged, and limed; then about the end of the year make a proper bed for laying the quicks, which should be laid at the angle of about 45 degrees. When the quicks are laid through the ditch, the earth that comes out of it should be thrown on the top of the thorns. The size of the ditch must depend on the situation, and kind of land it is made on; if dry land, the ditch requires to be less; if wet land, it requires to be larger; a good size is five feet by three feet to three and a half. When the quicks are laid, there should be what we call in the north a *scarcement*, of about eight inches out from the bottom of the quicks, so as to keep the earth to them; for when they are cleaned, the loose earth naturally comes down from the bank, and bares the roots of the thorns; but if the ditch is made with this scarcement, it keeps all the earth that falls from the bank to the roots of the thorns.

When the quicks are laid and the ditch is made, a good dead hedge or three rail paling should be put on the top of the bank; single paling of Scotch fir rails, and oak posts and rails, might be done for *5s. 6d.* to *6s.* the rood, or 16½ feet; the expense in this plan of fencing would come to about 7*s*. to 7*s*. 6*d*. per rood. I was informed the expense of making new fences of white-thorn, of two rows, throwing a ditch three to four feet broad, and three feet to three and a half deep, fencing with paling posts, and three rails in front of the ditch, and the same on the top of the bank double, cost 13*s*. 6*d*. to 15*s*. per perch (of eight yards), and if properly cleaned and guarded from the bite of cattle and sheep, would be fit to plash in six years; but if the other method was pursued, you might have good close fences in four years. In the northern district of the county, the fences are very indifferent, resembling the Kentish fences of hazel and bramble on high banks, appearing as if the fields had been made out of the woodlands at one period, and a part of the underwood left for a fence.

The numerous trees in the hedge-rows of the old enclosures destroy the hedges; for the dropping of the tree, and the nourishment the roots or fibres draw, make the hedges sickly, and occasion gaps, which are filled up with dead stuff, which causes a great decay in the living part of the hedges. If more care and attention were paid to the training, and keeping up the fences, Warwickshire would surpass most of the counties I have seen, for good fences.

Gate-Posts—Are generally made of oak; the head and back of oak or elm, with five bars, and two cross bars; hung on hinges and wooden sneck, and some with an iron catch. I was informed, that when well made and planed, they cost about 25*s*. to 30*s*. each, and those that are rough, from 12*s*. to 15*s*. and 20*s*. each.

In the construction and way of hanging the gates, I did not observe any thing remarkable; they are in general strongly made, and seem to answer the intended purpose. I am persuaded, if a light, well-constructed cast-iron gate were introduced into the county, that could be furnished for two guineas each, it would be found to be not only of great utility, but in the end attended with a great saving.

CHAP. VII.

ARABLE LAND.

SECT. I.—TILLAGE.

WARWICKSHIRE farmers are far from being neat in ploughing their land: the strong clay land is ploughed in large, crooked ridges, gathered very high, with a small ridge between them; and a great deal of the light land in a similar manner. I did not notice in any part of the county, half the labour bestowed on the land, as is customary in the Lothians and Berwickshire. The light sandy soils bore the appearance in many places of great slovenliness; for they were completely choaked with couch and other noxious weeds. The country from Stratford to Warwick appeared to be the best cultivated part of the county.

Ploughing.—The great points in ploughing are, to make the furrow straight, of an equal depth, and to lay it off at a proper angle, so that the soil may receive all the benefits of sun and wind. In most parts of the county of Warwick, I believe they plough in general from five to eight inches deep; they use from four to five horses in a plough, one yoked before another; the reason they give for this is, because the horses do not poach the land; but no land should be ploughed in a state so wet, that it will poach by horses working abreast.

Respecting the proper depth of ploughing, no universal rule can be laid down; the general rule long ago was, never to plough deeper than the same kind of soil went; but now you will find many very intelligent farmers lay aside that rule altogether, and say that the depth to be ploughed should depend entirely upon the state of pulverisation the soil is in at the time. As for myself, I am by no means an advocate for shallow ploughing; for during the course of my experience, I never saw any good attending it, but on the contrary it is pregnant with great evils. Deep ploughing certainly requires a greater quantity of dung, as a greater quantity of soil is to be mixed with it than if ploughed shallow.

I remember a circumstance of a farmer in Roxburghshire having quarrelled with all his ploughmen and turned them off, and not being able to procure others in their place, to plough his land for the seed furrow, he sowed a large field that had been turnips, eaten off by sheep, with barley, just as the sheep had left it, and got some women to drive his horses in the harrows, and harrowed the seed in, in the best way they could: from this a very good crop of barley was produced; but this must not be attributed to the mode of management, but to the circumstance of the season having been very favourable.

The way they yoke their horses in the plough in Warwickshire, must strike a stranger accustomed to rural affairs very forcibly, as it occasions a great loss of time in ploughing an acre of land, especially where the lands are short; for at every turning considerable delay is caused, before the horses can be turned into the furrow, so as to commence their draught. As they only go one yoking each day throughout the year, it is impossible that the horses or men can do as much work, as if their time were regularly divided. In the winter season, when the days are short, it is certainly better to make only one yoking; for it consumes so much time in going backwards and forwards to the homestall, that if the fields lay at any great distance, most of the day would be spent in going and returning; but in spring and summer, when the days are long, it is certainly best to divide the time, and make two yokings; say to begin at five o'clock and work till ten; then take out the horses, clean them down, muck and clean their stable, and give them plenty of meat: take them out again at one o'clock, and work till six; when brought home, clean them well, and bed them and supper them up for the night; under this system both men and horses will be ready to start to their work the next morning in good order.

Harrowing.—I did not observe any thing new in the mode of harrowing the land in this county; this operation being performed much in the same way as in other counties. The common custom is to yoke the harrows three together, sometimes only two, and a man or a boy to drive them; they generally go at a very good pace. It is supposed to be an obvious improvement for one man to drive three horses in the harrows; by having long reins and a whip, and walking behind the harrows, he may drive the horses and attend to the cleaning of the harrows, and keeping them right at the same time: three harrows going in this way, of a good breadth, must answer the broad ridges in Warwickshire very well, for the three will nearly cover one side of a ridge.

Ridges.—The general breadth of the ridges on the clay land in this county, is about 30 feet, with a small ridge between, about 10 to 12 feet broad, which formerly used to be generally in grass, but now remains in that state only in the common-field land; in the enclosed land it is cultivated in the same manner as in the other parts of the field. On the dry light soils, the ridges vary from 15, 16, 18, to 24, 30, and some, where the soil is very light and dry, to 40 feet. It appears to me, from the way the strong clay land is formed into these large crooked ridges, gathered up from year to year, that the side of the ridge next the furrow must be very bare, and also that the land must be subjected to be very wet; but from the manner these ridges were originally formed, it would be dangerous to alter them, without the greatest caution; they are only to be *laid* and put into a different form by degrees, and that can only be done when the land is allotted for a summer-fallow, and then great care and judgment must be exercised in levelling and working the land when dry. I am convinced, that when this operation shall be performed, and the lands *laid* properly down into 15 feet ridges, drawn perfectly straight, so as to lay according to a proper declivity, these strong clay lands would not only be greatly improved, but would be a great deal drier than ever they were before; they would be more easily ploughed, and would have the effect of keeping the wheat much better in the crown of the ridge in an open winter, when there are sometimes black frosts.

Upon wet lands, narrow ridges will not keep the land so dry as ridges of the dimensions before described, well rounded, so as to throw off the rain that falls.

Drilling.—The drill husbandry is very little practised in Warwickshire, only by a few individuals: Mr. Booth of Atherston, Mr. Jackson of Alvaston Pastures, Mr. Moore, Mr. Bolton, and a few others. It does not appear to be extending itself over the county, although there is a great deal of soil very well adapted for it, and from every appearance much benefit might be derived from the system, if practised with skill and judgment. The crops which I observed to be drilled, were wheat, barley, pease, beans, and tares, or vetches; the drilling of wheat seems to be extending more through the county than of any other grain. The distance at which most of these crops are drilled, seldom exceeds eight or nine inches, so that the working with single horse-hoe ploughs in the intervals is entirely out of the question. The only work that can be performed is by the hand-hoe, and from appearances, too little labour is bestowed in that operation.

I have before stated, that wheat appears to be most frequently drilled; the reason given for preferring this mode of culture is, in the first place, it saves a considerable quantity of seed, and the seed that is deposited is more regularly placed; in the second place, the wheat is less apt to mildew; has fewer of the heads broken down, and faulty; has less light grain than wheat sown broadcast, and the quality of the grain is much plumper and the rind or skin is thinner. For beans, pease, tares, and turnips, the drills should not be less than 26 inches apart, and for potatoes should not be less than 30 to 33 inches, for the more you can raise the earth upon the stem, as the growth advances, the greater and better will be the quality of your crop. In my opinion, more benefit will accrue to the farmer in drilling green crops, than white corn crops, and it is astonishing that I did not see an acre of drilled turnips in the county.

Hand-Hoeing.—The turnips in every part of the county are sown broad-cast, and in general hand-hoed once; some farmers bestow more pains, and hoe them twice. The appearance in the crop is very obvious, where they are twice hoed; the expense bears no proportion to the difference in value of the crop, and the state in which the land is left after being fed off. The other crops are only hoed when the drill system is pursued, and then in general too little labour is bestowed.

Weeding.—This operation is indispensably necessary in all crops, but is more attended to in the wheat and bean crop than any other in the county, and for a very good reason; wheat and beans are cut and bound into sheaves, and if thistles were allowed to flourish, they would not only be injurious to the reaper's hands, but would occasion a great loss of time, in the operations of cutting, binding, stacking, and afterwards carrying and building; but oats and barley, being all mown, and carried from the swath, they are only injurious to the soil they grow upon, and to the neighbouring lands, by the dispersion of the seed by the wind. Some farmers in Warwickshire pay particular attention to the destruction of weeds; others are very negligent; and in this respect I found this operation conducted much in the same way as in other counties.

Striking Furrows.—The farmers in Warwickshire are generally very careful, when the seed is sown and harrowed in, immediately to draw the water-furrows with a strike-furrow plough, also the cross-furrows, which are properly cleaned out with a spade, so as the water that falls may have little impediment in finding its course off the lands; yet I have observed a considerable neglect in some of their fallows, especially on the strong clay lands; the necessary precaution of clearing the furrows at each ploughing being disregarded, so that if rainy weather came on, in a number of instances the land must be completely flooded, and of course soured.

SECT. II.—FALLOWING.

MANY farmers on the new system of husbandry contend, that there is no use for a bare summer-fallow, after the land is brought into a complete state of pulverisation, and cleaned of couch and other noxious weeds;—that by proper attention to the drill husbandry for the green crops, and horse and hand-hoeing, and cleaning them thoroughly, the bare summer-fallow may be superseded altogether. On dry turnip soils, there certainly is no use for bare fallows, for by drilling the turnip crop, and drawing drills at proper distances, so as to admit of horse-hoeing, you may keep the land as clean and in as good a state of pulverisation, as by a bare fallow; but on strong clay lands it is certainly necessary to have a bare fallow every five years, and if it is not properly attended to, I am persuaded the farmer will find a great falling off in his crops in the course of time; for even if the system of drilling beans on strong clay is practised, yet it will not be found sufficient to set aside the necessity of a good bare summer-fallow. Strong clay lands certainly require once in five years, if under a course of cropping, to be well summer-fallowed; and the greatest care should be taken, in picking out all the knot-grass, and other root-weeds, every time it is harrowed, until not one root can be seen. Strong clay land of this description should not have less than six furrows, and the utmost attention should be paid, never to plough when the land is wet; for this kind of land is very apt to be soured, and when soured, it becomes a very difficult task to bring it properly round again. What is generally termed *tiding*, in the North, is the manner in which these strong clay lands ought to be managed in the summer-fallowing.

Dry lands that are adapted for the turnip husbandry, in my opinion, ought not to have less than five furrows, and an equal proportion of harrowings, before the turnips are sown; and if the farmer attends to this system, I am pretty certain he will find his account in it, in the weight of the crop raised, and in the soil being left in a much better state of preparation to receive the succeeding crop. I observed the farmers in this county, on dry loam or sandy soils, have a turnip fallow after a wheat crop sown from turf or ley, and again in six or seven years; on strong land, a turnip-fallow after two crops, and again in five years: under some modes of management they make a trench-ploughing answer the purpose, and have no bare fallow for seven or eight years. Others fallow from turf or ley, and again in five years; and again after two white crops a turnip fallow. On clay and other cold bottomed land, a bare summer-fallow after a crop from being broken up; and again in six years; on poor moorish sandy soil, turnip-fallow when broken up, and again in five years; on open-field strong clay land, once in four years a bare summer-fallow. All land intended for turnip-fallow or a bare fallow, cannot be too early ploughed after the crop comes off the ground; it then should get a good deep strong furrow, and be laid up dry for the winter. As early in the spring as the weather will permit, the same should be cross-ploughed, with a good deep furrow, and afterwards well harrowed and reduced, and every root-weed carefully gathered out of it, at least every particle that can be got out. These weeds should be gathered into heaps, be carefully carried to some convenient part of the field, mixed with lime, and laid up in a proper manner to rot;—the process of ploughing and harrowing to be carried on when the land is dry, until it is completely clean and well pulverized.

If strong clay land be intended for a bare fallow, the farmer should get on his lime, the quantity of which ought to be 220 bushels of shells to an acre; the quantity of dung must be regulated, in a great measure, by what has been made on the farm, if foreign manure cannot be obtained: when both have been applied, and carefully spread, they should be ploughed in immediately, with an ebb-furrow. On light turnip soils, it may be a very good plan to lay the lime on after the furrow the land gets after harvest, and when spread, immediately to harrow it in with double time along the ridges, which incorporates it with the soil.

SECT. III.—COURSE OF CROPS.

In Warwickshire, where the soils vary considerably in every district, and where the farmers practise different systems, and follow different plans of arranging the cropping of their lands, it is hardly possible by any general remarks to give a correct idea of the rotation of crops followed through any particular hundred. From the remarks I could make, and from what information I could obtain (which, I am sorry to say, was very limited), the farmers through the county are in the practice of taking two white crops running. They have what appears a strange practice to a person coming from the North, of sowing pease and beans on clay lands broken up from old grass, and some sow wheat. On good dry loams, wheat from old grass, if clean; and fallow for turnips, if foul, is a general maxim among them. It appears to me a preferable mode of managing on good strong clay lands after old ley broken up, to take a crop of oats; second year well fallowed and limed; third year wheat, and sown down with about 14 or 16 lb. of good red clover seed and half a bushel of good rye-grass per acre; fourth year, cut green for soiling horses, oxen, cows, and sheep; fifth year wheat, dunged on the wheat-stubble; sixth year drilled beans, well hoed and hand-hoed, and properly furrowed up; seventh year wheat, and then a good summer-fallow, again dunged and limed, but not such a large portion of lime as the first time; for it will be found upon trial, to be a very great improvement to lime land of this description, if dry good clay land, every time it is summer-fallowed.

Upon inferior clay, or cold-bottomed land, oats, after ley or old grass; second year, a good summer-fallow, well dunged and limed; third year wheat, sown down with red clover and rye-grass, in the proportions of 16 lb. of good red clover and half a bushel of good rye-grass per acre; fourth year, cut for soiling; fifth year oats, and then fallow again, dunged and limed, but in a less proportion to the first.

On good dry loams or sandy soils, if after old pasture grass—first year oats; second year, well cleaned and limed for drilled turnips, fed off by sheep upon the land, and the land folded in regular succession, so as it may be ploughed, and sown with wheat as the turnips are eaten, and the part that is not eaten off in time, sown with barley; both sown with red clover and rye-grass, in the proportion of 14 lb. of red clover and half a bushel of rye-grass per acre; fourth year, pastured with sheep; and the fifth year ploughed up, and sown with wheat from one furrow.

On light poor sandy soils, first year oats from grass; second year turnips, dunged and limed, eaten off by sheep; third year barley or oats, sown down with red clover and rye-grass; fourth year, pastured by sheep; and fifth year ploughed up for oats. The farmers in Warwickshire, I am convinced, would soon find their advantage in a strict adherence to this mode of cropping, instead of the present system, which I learned was as follows.

Rotation on strong Clay Land.

1. Beans or pease from ley broken up, one furrow broad-cast—seed five and four bushels per acre;
2. Wheat—seed sown, two and a half to three bushels per acre;
3. Summer-fallowed four furrows, dunged, and limed at the rate of from 15 to 22 qrs. per acre;
4. Barley sown with seeds, about 12 lb. per acre, with about two to three pecks of rye-grass;
5. Clover, cut for hay, and sometimes pastured, three years:

Or,

1. Wheat sown after one furrow from three-year old ley—seed per acre, two and a half to three bushels;
2. Beans, and sometimes pease, broad-cast—seed per acre, five bushels beans, and of pease four bushels;
3. Barley—seed per acre, three and a half to four bushels, seeded down with white Dutch clover and trefoil, about 12 lb., one bushel rye-grass per acre;
4. Clover, hay, or pastured, which lies two or three years:

Or,

1. Fallow from hay, and manured;
2. Wheat—seed sown, about two and a half bushels per acre;
3. Beans, broad-cast—seed sown, about five bushels per acre;

4. Barley, sown down with seeds;
5. Clover, hay, or pastured:

Or,

1. Summer-fallow from ley, manured with 15 to 20 carts of dung per acre;
2. Wheat—seed sown, about two and a half to three bushels per acre;
3. Barley—seed sown, from three and a half to four bushels per acre;
4. Oats, sown down with seeds;
5. Clover, hay, or pastured:

Or,

1. Summer-fallow, dunged, and limed 15 to 20 qrs. per acre;
2. Wheat;
3. Barley, sown with seeds;
4. Clover, hay, or pastured:

Or,

1. Flax from old ley;
2. Wheat;
3. Summer-fallow, manured with dung and lime;
4. Wheat;
5. Barley, sown with seeds;
6. Clover, hay, or pastured:

Or,

1. Beans, broad-cast, from three year old ley;
2. Wheat;
3. Oats, sown with seeds;
4. Clover, pastured:

Or,

1. Fallow, dunged, 15 to 20 cart loads per acre; limed, 15 to 20 qrs. per acre;
2. Wheat;
3. Beans, dibbled;

4. Clover, pastured with sheep;
5. Wheat, sown upon one furrow;
6. Turnips, dunged and drilled; fed off by sheep;
7. Wheat, sown down with seeds, red clover and trefoil;
8. Clover, cut for soiling, or pastured with sheep;
9. Oats one furrow;
10. Turnips drilled and dunged; fed off by sheep;
11. Wheat sown down with seeds, red clover and trefoil;
12. Clover, pastured with sheep.

Oats.—The first year oats require only one furrow from the grass, which ought to be clean ploughed, and laid neatly up in the end of December, and month of January, ready to sow in March. When the crop is reaped in August or September, the land should be immediately ploughed with a good deep furrow, and laid dry for the winter; early in the spring, or as soon as the weather will permit, it ought to be cross-ploughed, and when dry enough, should be well harrowed and rolled. Every root-weed should be carefully gathered into heaps, and then carted to some convenient place at the side of the field, put up in a heap, and mixed with lime. When the land is clear, the next furrow should be the reverse of the last, and as it is ploughed, it should be harrowed, well rolled, and the root-weeds of every description carefully gathered, removed, and mixed up with lime in the same manner as before. When clear, the land should be ploughed the contrary way to the last, harrowed, and then ploughed the reverse of the last; and again harrowed and rolled; lime should be ready in heaps at convenient places in the field, to be carried out in single-horse carts, and spread equally, at the rate of 250 bushels per acre. When the lime is spread, the land should be harrowed a double time, and then made up in drills, if possible, the contrary way the ridges lie. The drills should be about 26 inches asunder; and as they are made up, the dung should be led out, at the rate of 20 cart-loads an acre, and carefully spread in the bottom of the drill. When spread, the drills should be made up by ploughing in the dung with an ebb or shallow furrow. As the drills are done up, the drill machine with one horse and a boy, should immediately sow them, as it will be found of great advantage to sow the turnip-seed when the drills are fresh made up. Great advantage will be found in sowing them rather thick than otherwise, for it is easier to take plants out than to put them in. As soon as they begin to get the rough leaf upon them, they should be immediately hand-hoed, but not singled the first sime; and before the annual weeds can get time to make their appearance, the intermediate space between should be horse-hoed with a scuffle-plough; the hoes in a triangular position, so as to cut the intersections, and work the land freely between the rows. The number of times of horse-hoeing, must entirely depend on the season; if a wet season, the annuals spring up quicker; and if a dry season, slower; but at any rate, to do them well, they should be five times horse-hoed, and three times hand-hoed, with common drawing-hoes, about six inches by three deep.

The plants should be singled the second time of going over them, when the earth should be well taken away; for the more it is taken away, the larger in size will the turnips grow. It is unnecessary to furrow up turnips with a double-moulded plough on dry land; and before the sheep are folded, it is a good plan to rib the turnips, by taking up six drills, and leaving six standing, for them to break upon. It is injurious to fold many sheep together, for it is not only hurtful to the sheep, but is a great loss in the consumption of the turnips, as they are never so clean eaten

up,

up, and by forcing them to eat up the spoiled ones, the sheep lose in condition. They should be folded on the field in such a way, that as soon as the turnips are eaten off clean, and the fold shifted on fresh turnips, the land should be ploughed up and sown with wheat. The ploughing and sowing should be regularly attended to, as you go on clearing or feeding off; for by the land remaining exposed to the weather, it is inconceivable the injury it sustains in some seasons. Great benefit will result to the succeeding crop, from the dung being incorporated with the soil in as fresh a state as possible; and by laying the drills the contrary way of the ridges, in the ploughing for the seed-furrow, it crosses and divides the dung that was laid in the bottom of the drills in a more equal way; and causes the crop to come more evenly. Early in the spring, or as soon as the weather will permit, and the land be dry enough for rolling, the clover should be sown and rolled in; and by pasturing or grazing the clover with sheep, the spring and summer following, the land will be in a good state for ploughing up the latter end of September for wheat, of which, after such a mode of management, the farmer may expect a good crop. From this mode of husbandry on a farm of the soil before described, the farmer will have very little difficulty in keeping his land clean, and in a high state of cultivation; he should sow wheat instead of barley, as the latter not only exhausts the land more, but the grain of it in general bears no proportion in price to that of wheat; barley also produces at least one ton per acre less manure than wheat, which of itself is a very great consideration to a farmer during the currency of his lease.

From what I have stated in this section, and under the head of cropping, every person possessed of practical knowledge of husbandry, and who gives it due consideration,

tion, will at once perceive the advantage to be derived from arranging a proper mode of laying out land, and by cropping it in such a way as to make it produce the most abundant returns to the occupier, without being deteriorated and exhausted. This is perfectly practical by the rotation and mode of management laid down; but I should think it doubtful, if it will answer under any other. Cross cropping in some instances may be justifiable, when seeds fail; we have seen a very good crop of wheat after oats, and the grain of much superior quality to wheat after fallow, or any green crop; yet this mode of management is by no means to be recommended.

SECT. IV.—WHEAT.

THERE is a great deal of land in Warwickshire well adapted for the cultivation of wheat; and the culture of that valuable plant might be considerably increased, if a different system of husbandry were practised. In the south-east part of the county there is much strong good clay land in grass, that has apparently been laid down in very bad order, and is now full of pernicious root-weeds and ant-hills, that require very much to be broken up, and brought into a state of cultivation. After a crop of oats being taken, if well summer-fallowed, cleaned, limed, and sown with wheat, you might insure a great crop. There are also in the north-east and north, and south, and south-west parts of the county, a great deal of good strong land, admirably suited for the cultivation of wheat. On the best clay soil, you may have wheat after a summer-fallow, dunged and limed; again after clover, and again after drilled beans; so that by this rotation you have three crops of wheat in the six years, from manuring once. On the poorer clay soils, wheat after summer-fallow, dunged and limed; again after clover. By this rotation they might have two crops of wheat in four years, from manuring once; whereas by the present practice of the county, on the best clay soils under tillage, they have only two crops of wheat in the six and seven years; and on the poorer clay soils, only once in four and six years.

I am certain, that the system I have pointed out for the management of these strong clay soils, will yield three-eighths more produce than what is now obtained, and the lands be always in better condition than under the system at present adopted.

On the rich loams in the county, there is only a crop of wheat once in six, or eight years, instead of three crops, which might be grown in the same period with success. On the poor sandy soils, wheat is seldom attempted. I endeavoured to ascertain the extent of land in the county sown with wheat annually, but without success; and to hazard a conjecture might be to mislead.

Preparation on strong good Clays.

1. Wheat after beans, one furrow, and sown at the rate of two and a half to three bushels per acre. By some the seed is pickled in the usual way with brine, and a little quicklime afterwards sifted upon it; by others, with urine and brine mixed, and the light grain skimmed off. The seed is then taken out of the tubs, put on the barn floor, and a little quicklime sifted upon it before sowing: the quicklime absorbs the moisture, and makes the seed scatter equally from the hand of the sower. This operation is performed to prevent smut; changing the seed often has also the effect of preventing it. In the county

of Essex, several farmers not only swim the wheat among brine and urine, but mix arsenic amongst it, to prevent the smut.

2. Wheat after grass, ploughed once, and ploughed on the first furrow, harrowed, and water-furrowed; the same quantity sown as before mentioned, and the same operation gone through in pickling and sowing.

3. Wheat after summer-fallow—the operation of ploughing, harrowing, and rolling, gone through as before stated; the number of ploughings depends entirely upon the state the land is in. When the land is properly cleaned, and the soil completely pulverized, about 20 carts of well-rotten dung, and from 20 to 22 quarters of lime per acre, are laid on; when spread they are ploughed in with an ebb-furrow, and when the ploughing is finished, the land is ready at the season (if dry) for sowing the wheat, prepared as before stated.

The time for sowing are the months of October and November, as the lands are got ready. The kind of wheat most in estimation is red Lammas; and when changed, the farmer endeavours to procure it from a light soil. The produce is from eight to twelve bags or sacks per acre, at three bushels per sack, nine-gallon measure.

1. Preparation for wheat on dry rich loams:—one furrow after grass, one, two, or three years old, well harrowed, and the seed-wheat prepared as before mentioned, and sown by some with the patent drill machine, by others broad-cast.

2. Wheat after potatoes—one furrow; the seed prepared as before noticed, sown broad-cast, harrowed in; or the land well harrowed, and then the seed sown with the patent drill machine, and grass-seeds sown in the spring.

3. Wheat after pease—if the land be clean, one furrow; the seed prepared as before described; sown broad-cast and harrowed; by others, well harrowed, and sown with the patent drill machine. If the land is foul after the pease, it is ploughed two or three times, and harrowed, and the couch gathered until it is tolerably clean for the seed-furrow.

4. Wheat after ley oats—manured of course after a crop of oats comes off the ground; there is not much time to give the land more ploughings than one, when dung is to be led out and spread on the oat-stubble, and ploughed in; the wheat seed prepared as before stated, sown broad-cast, and harrowed in; by others, sown with the patent drill machine.

5. Wheat after barley from ley—manured on the barley stubble, and ploughed in; the wheat seed prepared as before mentioned, and sown broad-cast, and harrowed in; by others, sown with the patent drill machine. The period for sowing is the month of October and beginning of November, according to the state of the lands. Some farmers prefer the Lammas red, others the Hertfordshire white; some the Essex white; and others the Taunton-Dean white. The produce of the crop from six, eight, to ten, and eleven sacks per acre, three bushels to each sack, and each bushel nine-gallon measure.

1. Preparation for wheat on thin clay and marl-bottomed soils—after beans, manured to the bean stubble, and ploughed in one furrow; wheat seed prepared as before stated, sown broad-cast, harrowed in, and water-furrowed; by others well harrowed, and sown with the patent drill machine.

2. Wheat after summer-fallow dunged and limed, the land ploughed after the ley oats, then cross-ploughed in the spring, after all the spring corn is sown. When

ploughed, harrowed, and reduced with the roller, and the couch gathered, then ploughed the way the ridges lie: after this ploughing, if tolerably clean, it remains until dung and lime can be got to lay on. If very foul, it gets more ploughings, harrowings and rollings; sometimes six ploughings, when the land is foul. The dung and lime are laid on in the latter end of August, and ploughed in with an ebb-furrow for the seed-furrow, and then it is ready to sow at the proper season; sometimes it is the latter end of September, or beginning of October, before this operation can be completed. The wheat seed is prepared in the usual way, and sown in the same manner. After harrowing, the land is water-furrowed, and the ends cut out with a spade; and it remains in that state until the spring, when grass-seeds are sown, and then harrowed and rolled.

3. Wheat, after one, two, and three years' grass, ploughed once—the wheat seed prepared as before stated, sown broad-cast, and harrowed in; by others, harrowed, and sown with the patent drill machine; water-furrowed, and the ends cut out with a spade. The period for sowing is the latter end of September and beginning of October, as the season will permit, and as the land is ready for sowing. The kind of wheat most in estimation is the red Lammas, although several farmers sow the white Hertford, and Essex. When the seed is changed, the farmer endeavours to get it from a good dry loamy soil. The produce is from six to eight sacks per acre, at three to four bushels, each bushel nine-gallon measure.

Manure intended for wheat, is generally led out of the fold-yard on a head-ridge in the field where it is to be laid on; then laid up in a long heap, and mixed with the soil on the head-ridge; it is frequently carried out to the side of a lane where there is soil to spare to be mixed with it; afterwards turned a considerable time, before it is intended to be carried on the field. Dung is too frequently allowed to lie so long, that one half of its efficacy and strength is wasted by evaporation before it is used. Farmers will find the advantage of using dung in a fresh state, as the earth receives then that nourishment, which, by remaining to rot, would be lost in the air.

Hoeing wheat by the hand is practised by several farmers in different parts of the county with considerable success; but now the sowing of it by the drill has come into use, of course hand-hoeing will become more general, for the distance between is too narrow to attempt horse-hoeing. Another management of a wheat crop by other farmers, is to harrow and roll the ground, if battered and bound, and the plants appear not to get away, and before the crop gets in the ear, to cut or pull the thistles.

Diseases of Wheat.—Wheat is subject to more diseases than any other kind of grain: these may be divided into three classes; first, the mildew, which generally makes its appearance when the ear is out, and is supposed to originate from thick foggy moist weather, and raw or hoar frosts in the morning; secondly, blight, or smut, is supposed to originate by the same kind of weather. It is a singular circumstance, that pickling, and changing the seed often, should in a great measure prevent this disorder. I have seen three stems from one root, two capital good ears, and one blighted, and sometimes only a part. Much has been written on the cause of the smut, but I have not heard any satisfactory reason assigned for it.

The *Red Rust* is a disorder which affects wheat; it is brought on by great heats, without a proper degree of moisture, which occasions the plants to suffer from want of nourishment, and causes them to turn sickly, when they gather dust, and the plant has not sufficient strength to repel it, which increases so much in a long drought, that it becomes very prejudicial and hurtful to the crop. In the examination I made in the different districts of this county, I found the last crop of wheat (1811) less defective than in most other counties in which I had been.

Harvesting.—The wheat harvest generally begins on the dry loams in the best districts of the county the first and second weeks in August; on the higher lying parts of the county, and on the strong lands, ten or twelve days later; and on these lands even a more distant period, when the sowing has been late. The practice of cutting the wheat high is generally followed, and mowing the stubble afterwards. It has been found upon trial, that to cut the corn rather a little quick, will improve the quality of it; it is then bound and set up, and if the weather be favourable, it is very soon ready for leading. It is then carried, and built in round stacks, containing from 20 to 30 quarters. These stacks are extremely well built, and are as neatly thatched as any I ever met with; indeed the wheat stacks in Warwickshire are an honour to the husbandmen of the county.

Thrashing.—This operation is performed by the flail, where there are no thrashing-machines. I saw the small two-horse machines in several parts of the county, but they were so ill constructed, that I am of opinion the flail is preferable to them, and the farmer will thrash his crop at less expense with the former than with the latter. In seasons when the crop of wheat is deficient in every part of the country, it would require more strength than man is possessed of, to beat out the wheat from the straw; and thrashing-mills on a good construction, and with not less than four-horse power, are absolutely requisite, under such circumstances, to separate the grain from the straw.

SECT. V.—RYE.

This grain is seldom sown, except upon the light, poor, sandy soils, and is mostly sown with the intention for spring feed for sheep. It is very nourishing when young, and in that state sheep eat it with great avidity, but after it shoots up they dislike it. Where it is allowed to stand for a crop, it generally ripens very early; in the first week in July, in a favourable season; the crop, if good, will produce about four quarters per acre, and weighs nearly the same as wheat. This grain is often used by distillers.

SECT. VI.—BARLEY.

Barley is very commonly sown in Warwickshire on light, dry lands, after turnips, and grass-seeds sown at the same time. On thin clay land barley is sown after summer-fallow, with seeds; but the principal cultivation of barley is on the dry loams after turnips, the clay soils being more uncertain.

Barley after turnips; when the turnips are eaten off, the land is ploughed with a good furrow, and sown with barley and grass-seeds the latter end of April or beginning of May, when it is well harrowed, and then all rolled in. Early sowing is gaining ground in the county, it having been found from experience, that barley is a surer crop, sown early in April, than late in May. On clay lands, the time of their being ready for ploughing is more uncertain; for the seed-furrow requires the land to be dry, which makes the barley crop more precarious on this kind of soil.

Seed.—The quantity of seed usually sown per acre, is from three to three bushels and a half: the latter quantity is fully large, when it is considered that the greatest bulk of this grain is sown on dry loams and light sandy soils after turnips, eaten off by sheep. If the land were in good condition the end of March, and one double time of the harrows across the ridges given to it before sowing, I am of opinion two to two and a half bushels of good seed would be found sufficient. The cross-harrowing before sowing would make the braird come more equally away; and barley being more inclined to spread than most other grain, would require less seed for land in good condition than other grain.

The barley sown is generally what grows in the county; I did not learn of changes of seed being made from Norfolk or other counties, where the farmers are noted for raising fine samples: the barleys raised in the county are strong, weighty grain, of good quality.

Harvesting.—The barley harvest generally commences about the beginning of August, as in other counties; it is suffered to stand till the grain is completely ripe, and the straw perfectly dead. It is then cut with a scythe, remaining on the swath until it is ready for leading to the rick-yard, which, if the weather be favourable, is generally in two or three days after it is cut, except where the clover is strong, when it requires a longer time. It is generally raked into win-rows or heaps the day it is carried, and forked loose, like hay, into the waggons; built in stacks, some round and others in long rows; when finished, the sides are cut straight with a hay-knife, to save all the heads that may be on the outside, and those cuttings are carried into the barn. As soon as the stack is properly completed, it is neatly thatched by a thatcher, who makes a business of stinging it neatly, and puts the straw on without using any ropes but one near the easing, and it is executed in such a manner as to stand any weather.

This practice of harvesting barley may do very well to be thrashed with the flail, but the thrashing-machines will not thrash it clean, except it is put twice through, which causes an additional expense, besides breaking the straw very short. The labour is certainly a great deal cheaper in the first instance, than if it were all bound in sheaves, and set up in stooks; but I am of opinion, that the barley that is lost in the field, by putting it into heaps, and raking it together, is considerably more than equal to defray the additional expense attending binding it into sheaves and stooking it, exclusive of the additional expense of thrashing and winnowing it, and the waste of straw.

Harvesting barley as hay, requires a good climate; it would be a very dangerous practice in a wet climate, and more especially where grass-seeds are sown with it; for clover is so apt to shoot up in damp moist weather, that if it once springs up through the swath of the barley, it injures the appearance of the grain ever afterwards.

Produce.—On the best barley soils, after turnips eaten off by sheep, the produce is from five to six quarters per acre; on good clay soils, four to five quarters per acre; on thin and inferior soils, from 20 to 24 bushels per acre; an exact average is not to be got at.

The principal use made of barley is for malting, of which there is a very great consumption in the county. The straw is only valuable for packing, and making of litter; and for the former use, it can only be turned to advantage near Birmingham, Warwick, and Coventry, and other populous and manufacturing towns.

SECT. VII.—OATS.

THIS grain is sown after ley or turf when foul; after barley, before summer-fallow and a wheat crop; after wheat, before beans; after beans, and before wheat; after barley, before summer-fallow:—to all crops except the first, grass-seeds are sown at the same time. On dry loams and light soils, oats after ley or turf, and after tares eaten off by sheep; and turnips before barley from turf, and after turnips, sometimes before pease and oats from turf, and after barley, before turnips, and barley after turf or ley. On thin clay soils, oats after ley or turf, and after summer-fallow, before wheat after ley or turf

There are greater varieties of oats than of any other grain. These varieties consist of what is called the common white oat, the Essex white oat, the potatoe oat, the red oat, the Dutch oat, the Poland oat, the Friesland oat, the Siberian oat, the black oat, the Scotch white oat, and the dun oat. The potatoe, Dutch, and red oat, require a rich soil, and to be early sown; the other kinds will thrive well, and be a full crop, when the potatoe, Dutch, and red oat would not be nearly so. The oat of all descriptions, in my opinion, answer better in the north than in the south of England; the produce is far greater, and the quality of the grain much superior to what I have observed in any of the southern counties.

Preparation.—Oats sown after grass, one ploughing in the end of December, January, or beginning of February; after barley, in February or March; after wheat, much the same time; some give two furrows, the first in the latter end of the year, and the other in the spring, just before sowing; after beans or pease, in the spring; after turnips, as soon as the field is cleared, it is ploughed up.

Seed.—The quantity commonly sown per acre, is five bushels; on soils in good condition, a less quantity is sown, four bushels per acre; the sowing generally commences in March, and finishes in April.

Harvesting.—Oats are generally ready for mowing the first and second weeks in August. After they are mown, they are allowed to lie on the swarth till they are ready for leading home. On the morning of the day they are led, they are put in heaps in win-rows, and forked into the waggon, loose, in the manner before described in regard to barley. Under this mode of management, the loss sustained is very considerable, oats being a grain easily shed, more especially so, if they get much wet after being cut. The difference of expense in reaping, binding, and stooking, cannot exceed 6*s.* per acre, which is not to be compared to the loss sustained in the shedding, which cannot be less, if the grain has got much wet in the swarth, than eight to ten bushels per acre, exclusive of the loss of the advantage of having them cleaner thrashed with the thrashing-mill.

Produce—Depends entirely on the condition of the land; on clay soils, if in good condition, the produce is from six to seven quarters per acre; after wheat or barley, the produce is considerably less, not exceeding four quarters and a half; and in some situations, only three quarters. On rich loams, and sandy soils, after ley or turnips, from five to eight quarters per acre; on inferior soils, from three to four quarters per acre. There is one thing that may account for the produce of oats not being so great in England as in Scotland, and that is, the land that oats are sown on in England, is never so well prepared, and in such good condition, and the soil is generally inferior. Another circumstance is, that the oat is rather an aquatic plant, and benefits much from the greater quantity of moisture which usually prevails in the north, than in the south.

Application, and Price.—A great proportion of the oats grown in Warwickshire, is consumed by the farm-horses and other stock; the price they are sold for at the different markets, is in a great degree regulated by the London prices at Mark-lane, and now, when there are so many communications by canals, through different districts of the county, which join the Grand Junction, oats can be exported out of the county, or into it, as occasion may require. Birmingham is the principal market for them.

SECT. VIII.—PEASE.

THERE are many different kinds of pease, but they may be classed under the two denominations of the white and gray pea. The former are cultivated by the market-gardeners in the vicinity of towns, and in all the gardens through the county; the latter only by the farmers. On loams and sandy soils, pease are sown after grass and after oats before grass, and after barley before turnip fallow. On good strong clay soils, they are sown after grass, and after wheat. The greatest proportion is sown on the light soils; and if the land is clean, and in good condition, they will answer very well as a crop; but if foul, they will yield very sparingly, and leave the land in a most miserable state. Pease thrive well on new limed land.

Preparation and Tillage.—Pease after grass, ploughed once; after oats, ploughed in the spring, and sown on the fresh furrow; after barley the same; and after wheat, ploughed twice; by some only once.

Time of Sowing—The month of February, and beginning of March. On light dry soils, they may be sown early, but on clay and wet soils, the land must be dry, and in condition to work, before they can be sown to advantage.

Seed.—The quantity generally sown is four bushels per acre, mostly sown broad-cast. Pease should be sown thick; in my opinion, not less than four bushels and a half per acre.

Harvesting—Generally begins in the month of July, when the pease are cut and tied up in bunches, with part of the straw: they lie to dry, are then turned, and when sufficiently dried, are led to the rick-yard, and built into large stacks of the same form as hay. They are immediately thatched for fear of rain, for if uncovered, the rain runs very easily through them.

Produce.—Pease are a very variable crop, and exceedingly precarious in almost every part of the kingdom, but more especially so in climates that are late, and subject to rain. They do not thrive well in seasons too wet or too dry: in wet seasons they grow all to straw, and never fill; in dry seasons they turn yellow at the root, and die away, the pods not filling; a good medium season, neither too wet nor too dry, is certainly best suited for all crops, but more especially so for pease. This year (1811) the pea crop has generally failed through almost every county, owing to so much wet weather last summer, which was supposed to have brought a kind of lice on the crop, which almost ruined it; and in a number of places, I understand the seed was hardly got from the crop.

It is generally allowed, that pease answer well on new limed land, and the soils most suitable for their cultivation, are good dry calcareous soils. In favourable seasons, on land in good condition, and on the soils before described, the produce of the crop will run from five to six quarters per acre; on foul land, out of condition, and not possessing a proper stimulant, it runs very low, from two to three quarters per acre.

Thrashing.—The thrashing of pease is better performed by the flail than the thrashing-machine, with a view to save the straw, which is valuable for fodder for the working horses upon the farm. When it is thrashed with the machine, if fresh, it is knocked all into chaff. The price for thrashing with the flail, depends on the state of the crop: if a very good crop, 1*s*. 6*d*. to 2*s*. per quarter.

Use the Grain is applied to.—The greatest quantity of the white pease is used green in families; the gray pease are principally used for feeding and fattening of hogs.

SECT. IX.—BEANS.

Beans are now more generally cultivated in Warwickshire than they were some years ago; and if the Warwickshire farmers would adopt the practice of drilling the beans, instead of sowing them broad-cast and dibbling them, they would soon perceive the beneficial effects of the drill culture to the other. In different districts in the county, I perceived the bean stubbles very foul. Beans are sown after grass, and after wheat from grass, and after wheat before summer-fallow, manured, and after ley or grass, dibbled.

Preparation, or Tillage.—Beans after ley or grass, one ploughing; after wheat, two ploughings, one before winter and the other early in the spring; the same after wheat; before the wheat a summer-fallow; and after ley or grass the same. If the drill system were adopted, the land intended for beans should be ploughed with a good deep furrow immediately after harvest, and when the ploughings were finished, the water-furrows should be well cut out, so that whatever rain might fall, it might get easily off the land. In the month of January the land should be ploughed across, and as soon as dry, well harrowed, and the root-weeds carefully gathered out and removed. When that is done, the land should be ploughed along again, and when dry, harrowed well; drills should then be made with the plough, 26 inches apart. Between these drills, sow the beans with a drill-machine, that will sow three at one time. As they are sown, slit out the drill with the plough to cover the seed, and in a week or ten days after, harrow the drills across, and level them; then water-furrow the field, and cut out the ends of the ridge with a spade, and the head-ridge furrow in a neat manner, so as completely to carry off the water that might otherwise lodge.

Manuring.—Beans, after wheat, should be dunged upon the wheat stubble, if the land is clean, and ploughed in; but this is not practised in the county of Warwick.

Drilling.—This is not practised; the farmers contend that the expense would be too great, and after all, they think it would not answer, for they should never have such good crops as when sown broad-cast or dibbled; but this is a very erroneous opinion.

Dibbling.—This practice is coming into very general use. The distances are set off with a line; the space between the holes made for the reception of the bean, about three and a half to four inches, and the depth three and three quarters to four inches and a half: the expense from 8*s*. to 9*s*. per acre.

Quantity of Seed, and Time of Sowing.—The usual quantity of beans sown per acre, is five bushels, broad-cast, and from three to three and a half when dibbled. The time of sowing depends in a great degree upon the

weather;

weather; if dry and favourable, in February; if wet, the middle, and sometimes the end of March, before they are got in and finished.

The Kind sown—Are the common tick bean, and the horse bean.

Hoeing.—The only way they can be cleaned, is by hand-hoeing; the dibbled beans are hand-hoed once, very seldom twice; when twice, the first hoeing when they are about six inches above the ground. The expense is regulated according to the condition the land is in; supposed to be about 7*s.* to 8*s.* 6*d.* per acre.

Distempers.—Beans are subject to be infested by black vermin, which in some seasons are very injurious to the crop. The last crop (1811) was much injured by them, and a great many fields in the county of Essex were entirely destroyed by them; moist, calm, sultry weather, is supposed to be the cause of bringing them on.

Harvesting—Generally commences about the beginning of September. The crop is cut close to the ground, and bound into sheaves, set up in four or five round, and remains until perfectly dry and ready to lead to the rick-yard to be stacked. The stacks are some round, and some in the shape of hay-stacks, neatly thatched, to protect them from the weather. In the north, they generally thatch them to the bottom of the stack, to keep off the pigeons; but this plan would not keep the pigs from them, except they were built on a frame. Building corn on frames, is very little attended to in the north, although the benefits arising from them to the farmer are great, by preventing vermin from getting into his stacks or ricks.

Produce.—The bean crop varies much, and depends a great deal on the season, and mode of management. I was informed, that in a favourable season, and on good land, the produce was from ten to fifteen bags an acre, at three bushels per bag, nine-gallon measure; on other soils, from eight to ten bags, and where sown broadcast, and the land foul, from fifteen to eighteen bushels per acre.

The straw where the crop is strong, is only used as litter, possessing very little nourishment, and is thrown out from the barn into the fold-yard, where the swine work amongst it.

The grain is principally used for horses, whole and bruised; given to hogs; to sheep sometimes, when feeding, and to deer, in hard weather, when the ground is covered with snow. A considerable quantity is exported to the West India Islands.

SECT. X.—TARES, OR VETCHES.

Of these there are two descriptions, winter and spring tares. *Winter* tares are sown after wheat or oats, and after grass or ley, previous to a turnip fallow, and sometimes after pease, previous to a turnip fallow.—*Spring* tares are generallly sown on the fallow-break on strong land, and on the turnip-break on light soils; the former are eaten off by sheep in the spring; and of the latter the greatest proportion is cut green for the working stock upon the farm: some farmers plough them in for manure.

Preparation.—Tares sown after wheat or oats; ploughed early after the wheat crop is cleared off the ground, and sown on one furrow well harrowed. Winter tares for spring feed for sheep, cannot be too early sown. Spring tares are generally sown after one ploughing, in the same manner.

Seed.—The quantity of seed sown is two bushels, which I conceive is by far too little: not less than three bushels per acre should be sown when they are intended to be eaten off by sheep; a less quantity will answer, if they are intended to stand for seed; for the thickness of the crop might prevent the plants from blossoming, and consequently podding and filling in a sufficient way.

Time of Sowing.—For the winter tares, in the months of September, October, November, and early in December, so as to come forward in regular succession in the spring for folding, after the turnips are finished: spring tares in March, April, and May; where intended for seed, they should be sown early, as they are a precarious crop if late.

Application.—Tares are principally applied for folding, and being eaten on the land by sheep, and cut and given green to the working-horses during the latter part of the summer and autumn. They are a nourishing food, and horses fed with them will thrive better, and do more hard work than when fed on clover. They are dangerous, however, when given to horses in too large a quantity, and wet, being apt to colic them, especially when podded, and nearly full. Tares, used when cut green at a proper age, and soiling them with cattle or sheep, will keep double the quantity of stock per acre, that clover will do used in the same manner.

Harvesting.—Tares intended for seed, are mown or cut with a hook, and when perfectly dry, and in a safe state to keep, are led home and stacked.

Thrashing, and Produce.—Tares are generally thrashed with the flail, at the expense of from 3*s.* to 4*s.* per quarter. The produce varies a great deal more than that of pease; in a favourable season, I understand from 26 to 28 and 30 bushels per acre, have been obtained; and in unfavourable seasons not the seed.

SECT. XI.—TURNIPS.

I COULD not learn when turnips were first introduced into the county of Warwick, cultivated either in the garden or the field; but from the great proportion of soil the county contains, suitable for the culture of this root, there is every reason to believe, that shortly after their introduction into Britain, they found their way there. The cultivation of them has certainly extended rapidly, and there is room for a further extension. Before the general cultivation of this valuable root, it was impossible to manage light soils with success, so as to pay a rent any way proportionate to strong good clay soils, or to devise a proper mode of managing light dry soils to advantage. In counties where much stock was kept, a great loss both of cattle and sheep was sustained in hard winters and cold severe springs, for want of a proper substitute for grass; and hardly such a thing was ever attempted by farmers, as the fattening of stock during these seasons. The benefits derived to the nation from the introduction, and now extended cultivation of this valuable root, is incalculable.

Light dry soils are most suited for the cultivation of turnips; land that the farmer can get on at all seasons without doing it injury. Clay soils are by no means suited for them, even if the farmer should meet with a favourable season for reducing the soil into a proper state for their culture; for there is great danger, that in removing the crop with carts and horses, the land would be poached in such a manner, as to render succeeding crops very precarious; and to fold stock on them, would only be destroying both.

Turnips are cultivated in two ways, broad-cast and drilled; the former is the general practice in the county of Warwick; the latter is only very partially practised.

Preparation—Depends a good deal on the preceding crop: turnips after tares, folded with sheep; first ploughing soon after the land is clear, then harrowed, and the couch gathered into heaps and burnt; so remaining until the weeds begin to vegetate: then a second ploughing is given for the seed-furrow of clean turnips after wheat, and manured; first ploughing after the wheat seed is finished, when it generally lies in that state until all the spring corn is sown, when it is ploughed the reverse way of the last, and harrowed, and the couch gathered into heaps and burnt: it is again ploughed, harrowed, and rolled, and the weeds gathered until the land is clean, when the dung is led on, spread, and ploughed in with an ebb-furrow, ready for the seed. Turnips upon newly taken in land pared and burned, the ashes spread, ploughed, and sown with turnip seed broad-cast.

Manuring.—Turnips after tares, folded and eaten off by sheep, are seldom if ever manured; turnips after wheat, oats, or barley, always manured with dung, and limed, if the land has not been limed for some time before: the quantity laid on per acre, varies much, and is dunged in a great measure, as to thickness, by a regard to the quantity of land the farmer has to go over, or, more properly speaking, what is intended for his turnip break. The land should be well dunged, not less than 20 carts per acre, for the weight of the crop depends greatly on the richness of the land, more especially for Swedish turnips. The seed should be sown on the land, being well dunged, and it is reckoned a preferable plan, to put the dung in fresh before sowing, to either dunging the land the crop preceding, or on the stubble, and ploughing it in the winter preceding, on the land intended for turnips the year following.

Sowing the Seed.—On most of the land intended for turnips, the seed is sown broad-cast; sowing with the drill-machine is very little used. Sir Charles Mordaunt has introduced the Scotch two-horse plough, and intends to practise on his estate the drilling of all his turnips, in which I sincerely hope he will be successful. The quantity of seed sown is two pounds per acre; mixing the seed with sulphur for eight or ten days before sowing, is said to be the means of preventing the fly.

Time of Sowing.—The general time for sowing is the month of July, and beginning of August; the stubble, or what they call the brush turnips, is sown as soon as the crop is got off the ground, and the land is ploughed. Swedish turnips require to be earlier sown than the common field turnip, by at least a month. If the season be mild and, in the second place, as the folding gives the land a complete dressing for a succeeding crop of barley or oats, with grass-seeds, and brings the land into such a state, that if the crop be not sloomy, you may always ensure a good crop of clover afterwards. I should think it would be a good plan, where the fields are large, and will admit of it, to have half of the field, where the turnip-break is intended, to come in as clover stubble, which would be of very great advantage, by enabling the sheep, in wet weather, to feed on the turnips laid on the grass, instead of remaining on the wet land.

As sheep, when folded, eat deep into the body of the turnip, they should be carefully picked up with a picker, or hoe, and cut into four quarters with an instrument in the shape of a mincing knife, a cross made at right angles with a hose, an upright shaft put into it, which you lift up, and place straight down upon the root so picked out of the ground, which cuts it into four quarters, and puts a fresh edge on the turnip for the sheep to begin upon. In practising this plan, the sheep will eat up the turnips clean, without leaving a shell on the surface; unless this is carefully attended to, the loss of turnips may be very considerable.

In wet weather, drawing turnips, and leading them home to the fold-yard for wintering cattle, improves them wonderfully, and is the means of making a great deal of manure. Where proper sheds are constructed for tying up cattle to the stall, turnips will go a great way in the fattening of oxen, and will benefit the farm by the produce of manure. It is supposed that an ox put up to feed in this way, when fat, will weigh 40 stones Dutch weight, and will eat as many turnips as eight wether sheep, which, when fat, will weigh 16 lb. per quarter. That scientific and highly respectable agriculturist,

turist, Mr. William Hunter, of Tynfield, near Dunbar, East Lothian, (who has made more experiments on the raising and consumption of turnips than any person I know, and whose knowledge of his profession as a practical farmer is not to be questioned), says, that in all the experiments he has tried in the consumption of turnips, there is none so profitable as to make a fold on a dry headland, at the side of the field where the turnips are growing; to bed or lay the fold well with straw, place cribs at convenient and centrical places in the fold, to put the turnips in, and to eat them by sheep. In this way, and by giving the sheep few turnips at a time, but often, and by bedding the fold always before it begins to get foul or dirty, you not only make a great quantity of most valuable dung at very little expense, but the turnips used in this manner will keep more than double the number of sheep, with this great advantage, that the sheep will fatten, and be much sooner ready for the butcher.

Turnips are an excellent food for working horses, either given by themselves, or cut into slices and mixed with corn. Horses, when once they begin to eat them, get amazingly fond of them; but great care should be taken to wash them very clean before they are given, as it has the good effect of keeping their bowels open. You will always observe horses that eat turnips, to have very clear skins, and a much fresher appearance, and be more lively, than those in a similar situation that do not eat them. Horses that are hard worked on a farm, have but little time to eat turnips in the day time, therefore they should always, during the winter, have a good feed of them every night, which would be of great benefit to the animal. They would not only nourish and invigorate him, but their consumption in this way would be attended with a great saving of corn; an object that should claim the attention of every considerate farmer. Horses are naturally fond of the white Norfolk turnip, and when they get into a field where they are, immediately begin to eat them. I have often observed the horses, while the cart was standing, begin to eat them voraciously. What is stated, principally applies to the common white field-turnip, but there are several other kinds; Swedish, the tankard, the globe, and yellow turnip; all of equal benefit to a farmer, especially the Swedish and yellow turnips.

SECT. XII.—CABBAGES.

The cultivation of cabbages in the county of Warwick, is principally confined to gardens; that of turnips of different kinds being extended over the county. As it is the interest of every farmer to cultivate crops that will yield the greatest profit, and leave the ground in an equally good state and condition, in an agricultural point of view, we see no benefit or advantage to be derived from the extension of the cultivation of cabbage, but the reverse, for the preparation is far more expensive; they require double the quantity of dung; and it is well known, that no crop will draw and exhaust the ground more than a good plant of cabbages. The best cultivated field of cabbages I observed in the county, was on the Duke of Buccleugh's estate, on the road leading from Dunchurch to Rugby. I called on the occupier, who I was informed was a Mr. Brierly, but unfortunately he was from home. The cabbage was the white drumhead, and most of the plants were a very great size. I am sure some of them would weigh above 42 lb.

There is a red kind of cabbage, that has been tried in different parts of the county, which it is said grows to a good size, are more firm in their texture, stand the winter better, and are less hazardous, than the white drum-head kind.

The principal use to which cabbages are applied, are for milch cows, which thrive well upon them so long as they keep sound and fresh; but whenever they begin to rot, or if the outer leaves are not carefully picked off, they taint the milk and butter very much. When they are given to cows in an imperfect state, a little saltpetre dissolved in water, should be put into the milk when fresh from the cow, and well mixed with it: this will have the effect of taking away the ill taste from the milk and butter: it is equally efficacious where cows have been feeding upon decayed turnips.

SECT. XIII.—SWEDISH TURNIPS.

This turnip is not cultivated extensively in Warwickshire, although the soil is well adapted for it, being naturally fertile, which kind of soil the Swedes require. This turnip is possessed of the valuable quality of standing the winter much better than any other turnip, and retains all its rich nourishing properties in the spring, when the other kinds become spongy and tough, run to seed, and lose their nutritious qualities. The Swede is of the greatest importance to feeders in the latter end of spring, (when the common-field and white Norfolk turnips are useless), coming in as an excellent substitute between them and the grass. In other counties where grazing prevails, and where the climate is late, an extended cultivation of the Swedish turnip becomes more necessary than in Warwickshire, whose climate is early, and the soil in general rich; by which means the grass comes in early, nearly before the common-field turnip is consumed, or becomes useless; thus in a measure superseding the necessity of the Swedish turnip as a substitute between the common turnip and the grass. The preparation for this turnip is the same that is given to the common turnip. It requires more dung to insure a good crop; the time for sowing them is about a month earlier than the common white turnip; transplanting them is considered a good plan, to prevent them from shooting.

Every farmer who sows Swedish turnips, should be very particular in the selection of the seed; for there is more spurious seed of this root, than of any of the other kinds; he who cultivates them extensively, should raise all his own seed, and raise it only from the turnips he can select that are well-shaped, and of a small stem. It is too often dangerous to trust to shopmen to furnish this seed, or even any other kind of turnip seed, as very heavy losses have been sustained by it*. I remember a very eminent agriculturist, Mr. George Rennie, of Fantassie, East Lothian, being furnished by a seedsman at Edinburgh with mustard-seed instead of turnip-seed, which was the cause of his losing the season, upon a very extensive field, for that year. If even he had been reimbursed for the loss, yet such a failure must be considered a great disappointment, as deranging his future plans: he has ever since raised all the seed he used on his own farm, allotting a small piece of ground for that purpose, and is extraordinarily particular that no other vegetable be allowed to seed near to it, for fear of a mixture. At first he only raised as much seed annually, as was requisite for sowing his own farm, but now he carries it on a more extensive scale, and supplies the country around him, with pure unadulterated seed. Mr. Rennie takes the true method of raising it genuine, selecting only the best shaped turnips annually, from a field of more than fifty acres, which is the breadth he commonly sows; by this extensive and judicious selection, his Swedish turnip seed has a decided advantage over most of the seed to be purchased at shops.

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* Messrs. Gibbs and Co. the corner of Half-Moon-street, Piccadilly, are Seedsmen to the Board, where persons wanting any kind of seeds or grain, may be assured of meeting with the best sorts.

Of the yellow turnip there are two kinds, the garden yellow and the field yellow; the former grows smaller, and is only sown in gardens as a kitchen vegetable; the latter grows to a large size, and retains its nutritive qualities late in the season. This turnip will grow upon ordinary soils, and its cultivation upon a large scale, is deserving the attention of farmers who are in the practice of feeding stock to a great extent. I observed very few of them cultivated in Warwickshire.

SECT. XIV.—CARROTS.

The cultivation of carrots is generally confined to gardens, the field culture of them in this county being very small. They are only to be cultivated with success, on rich, deep, sandy loams, and the land requires to be very well prepared before the seed is sown. Very deep ploughing is absolutely necessary, to enable the root to get easily down into the soil. Dung is very dangerous for this root, except it be judiciously applied; it must be completely rotten, and perfectly fine before it is ploughed in, for if long, and in lumps, and not well broken, wherever the carrot root strikes on it, it is sure to fork.

The cultivation of this root to a great extent, must be principally beneficial in the immediate neighbourhood of large towns. There is a good deal of soil about Birmingham, adapted for the raising of carrots, and from its numerous population, I should imagine there is a ready and good market for them; but how far it may answer for a farmer to raise carrots on a large scale on his farm, to be entirely consumed by stock, where turnips can be grown, remains to be decided by experiment. I understand they have been grown largely by Mr. Burrows of Weasenham, near Rougham, Norfolk, who speaks very highly of them in this mode of consumption, and is annually extending the culture of them.

SECT. XV.—PARSNIPS.

THE cultivation of parsnips in this county, like that of carrots and cabbages, is mostly confined to gardens; it is a root that requires a deep soil, yet it will thrive on stronger land than the carrot. The preparation for this root is much the same as for carrots, and the way they are stored, after being taken up, is the same. A good crop of parsnips will greatly exceed the weight of a good crop of carrots per acre. Parsnips require more attention in cleaning and hoeing, than the former, although both will do little good, without they are very carefully attended to, even on the best soils.

SECT.

SECT. XVI.—POTATOES.

THE potatoe is an esculent root, which now forms a principal part of the food of man. In Ireland, whole families live entirely upon them; in Scotland, they are a chief part of the food of the lower class, where they eat them with herrings and milk; and throughout the whole kingdom they are now in general use. From no crop that is cultivated, will the public derive so much food as from a good crop of potatoes; it being supposed that one acre of them will feed nearly double the number of people that an acre of wheat will do. They are very healthy and nourishing; and congenial to most people's palates. They are generally cultivated in Warwickshire, as there are few farmers that do not plant them in a greater or smaller quantity. In the neighbourhood of Birmingham, considerable quantities are raised, and there they form a part of the rotation of the farms; but in other parts of the county they do not form any regular part of the rotation, except it may be about Warwick and Coventry, it being supposed that potatoes can only be raised to advantage in the neighbourhood of populous towns or villages, being a bulky article; and the price given for them, for human food, will not bear the expense of carriage to any considerable distance. I am clearly of opinion, however, that this valuable root might be grown on every farm to great advantage, as food for stock; and to their utility and profit even in this mode of application, should be added the almost incalculable advantage arising from them as a resource for sustenance for the nation, in the event of a failure in the wheat crop. The increasing population of the kingdom imperatively demands, that *depôts* of this "staff of life," should be established throughout the nation, where, in times of scarcity, they might be served out to meet the exigency of a defective crop. The ground most suited for potatoes is a light dry soil.

Preparation.—The land is frequently ploughed for this crop, and if the weather will permit, in the spring it is harrowed, if foul, and the couch gathered into heaps and burnt; then the dung is led out, spread, and ploughed in with an ebb-furrow; the land is then ready for the setts to be drilled or dibbled in. The mode of preparing land in the North, for potatoes, in my opinion, is infinitely better, than either the plan practised in this county or any other I have seen in the South. Potatoes are generally taken after a white crop; [illegible] land is repeatedly ploughed, harrowed, and rolled, and at each harrowing it is carefully cleared of every root-weed (which are carried off), and made up with the plough into drills, about 26 to 28 inches between, some 30 inches; the dung is led out and laid in heaps, one row to every five drills, when it is carefully spread in the intervals, and the potatoe plants or cuts are planted about four to six inches distance from each other; the drills are then reversed by the plough, and well covered in.—This finishes the preparation,

Quantity of Seed.—The potatoes are cut and managed in Warwickshire nearly in the same way as in other counties; the quantity planted to an acre, varies from 10 to 11 bushels.

Time of Planting—Is in the month of April and May, as the land can be got ready.

There are many different kinds of potatoes planted in the county, but I could not get a list of them; the common round white potatoe is in general use.

Hoeing.—This operation is principally performed by the hand-hoe, which is gone over twice, and sometimes thrice, according as the farmers think the crop may require. This crop, when horse-hoed and hand-hoed, should at every time be well furrowed up with a double-moulded plough; the advantage derived from it would be found very great.

A disease called the curl, which affects potatoes, is prevalent in Warwickshire, as in other counties: the changing of the seed often, from a high land district, where the soil is light and dry, is a partial remedy against this disease.

Taking them up.—A three-pronged fork is generally used for lifting them up, a man to every row, and a woman gathering; if in drills, a double-moulded plough is the most expeditious way, if the soil be light and dry.

Storeing the Potatoes.—They are put up in the barn, and well covered over with corn or straw, to protect them from the frost; some pit them in the fields, by cutting a trench in a very dry part of the land, about one to two feet deep, bedded with straw; the potatoes are here deposited, and heaped up as high as they can be; then straw is laid on each side and on the top, when the whole is covered over with earth, beat on with a spade, to protect them from the winter's frost. In this way they are kept till the spring, when they are lifted altogether; for it is a dangerous thing to break in on them, and only take them from the pit as they are wanted, as they would be liable to be stolen.

Produce.—Potatoes are a very variable crop; they run from 100 to 500 bushels per acre: the best crops on good soils may vary from eight to ten tons per acre; the champions will produce more.

Price.—This depends in a great measure on the season; in a favourable season, and an abundant crop, they sell very cheap; in a wet, cold, unfavourable season, they generally fail so much, that the price gets up uncommonly high; they generally sell about 2*s.* per bushel.

Potatoes are applied in different ways; they are given to horses, milch cows, and hogs, raw; but it is a preferable way to steam them for the latter; the same weight steamed, instead of being given raw to a hog, will produce a very visible effect for the better.

Potatoes are considered by many practical farmers as an exhausting crop for the ground. It is certain, that if the land is not well prepared, and a large quantity of dung laid on, the crop will turn out a very indifferent one in quantity, and the land not fit for any white crop to succeed them.

SECT. XVII.—RED AND WHITE CLOVERS.

THE exact time that red clover was first introduced into cultivation in Warwickshire, is uncertain; but it is now very generally sown with the following crops: with barley that succeeds turnips; with wheat that succeeds pease, with oats that succeeds barley; with barley that succeeds beans, with barley that succeeds wheat, with rye that succeeds summer-fallow from turf, with wheat that succeeds a summer-fallow manured, and with barley, that succeeds a summer-fallow. The seeds are sown at the same time that the grain is sown, except wheat, when they are sown among the wheat in the spring, then harrowed, and rolled in. It is not material whether clover is sown with wheat, barley, or oats, provided the land is clean, and in good condition. I have seen clover sown in the month of October with wheat, which answered exceedingly well; and I have no doubt, if it was practised, but it would be found to succeed. It is the opinion of farmers in general, that clover keeps in the ground much better sown with barley, than with wheat; which must be occasioned by the practice of sowing the seed among the wheat in the spring, when the land is returned into a solid state from lying all the winter, and pulverization cannot be resumed; whereas, when sown at the same time that barley and oats are, the land is in a friable state, and the seed strikes its roots deeper into the soil.

Seed.—As the greater proportion of the lands in Warwickshire which are sown down with clover, generally remain in pasture for two or three years, the quantity of red clover sown is not so great as if the land was to lie a shorter period. The quantity of red, white, and trefoil sown per acre, is about twelve or thirteen pounds. Clover-seed, when sown by itself, should be carefully scattered, and to insure its being put equally into the ground, every ridge should get three casts; one cast down the one side of the ridge and the other up, and one down the middle, to complete it. The red and white clover, and trefoil seeds, are frequently sown with a small proportion of rye-grass; if sown with oats and barley, of course the time depends upon their being sown: if sown with wheat, the first dry weather about the middle to the end of March, is the usual time.

Use.—Most of the young clovers in the county are pastured with sheep; very little is cut for hay: a certain proportion is cut for working horses, through the summer. The first year of clover pastured, will keep double the quantity of stock per acre to any year afterwards. Soiling or using artificial grass, cut green and given to feeding cattle and sheep in the homestall, and in the fold, is very generally practised in the North. Several experiments have been tried, which clearly prove the advantage to be derived from it. Red clover, with a small quantity of rye-grass amongst it, answers best for cutting green for that purpose: several very successful trials have been made by Mr. Brown of Markle, East Lothian.

Produce.—This varies considerably; when mown on strong lands, and made into hay, from 1 to 2½ loads per acre; when the second crop is made into hay, about 1 to 1¼ load, if favourable weather: sometimes the second crop is allowed to stand for seed; but this season (1811) has been so very unfavourable, that it is hardly worth thrashing and cleaning.

White clover, when intended for pasture, is always sown with red and trefoil, and a small quantity of rye-grass. It is not sown but when the land is intended to remain in grass two or three years: when intended to lie a shorter period, and the clover to be cut for hay, red clover with a small quantity of rye-grass is only sown.

SECT. XVIII.—RYE-GRASS.

THIS is one of the earliest grasses we have; when sown with clover, for pasture, a considerable quantity may be used with safety; but where the crop is intended to stand for hay, sowing much of it with the clover, has the effect of destroying the clover; for wherever you observe rye-grass get far a-head of the clover, it remains very thin planted.

There are two kinds of rye-grass, annual and perennial; the former is only sown when the land is intended to remain one year in grass; the latter when it is intended to remain for years.

SECT. XIX.—LUCERN.

THERE is little of this plant sown in Warwickshire It has been tried upon a small scale by several gentlemen with success, upon rich land; but the culture of it does not seem to be extending much; indeed, there is no necessity for an extended culture of this plant, where plenty of red clover is raised, for that is a better substitute as food. The best method of cultivating this plant is sowing it in drills.

SECT. XX.—FLAX.

FLAX is not so extensively cultivated in this county as it was formerly, and, as it is in most other counties throughout the kingdom; there is not near a sufficient quantity raised to supply the wants of the inhabitants.

The soil and climate of Warwickshire are well adapted for the growth of this plant, and there is a great deal of old grass land that requires very much to be broken up, which is in every respect suitable for its culture. When flax is pulled green, it is not considered a severe crop for the ground; but when it is allowed to stand for seed, it is deemed a very scourging crop. The soil most suitable for this plant is a deep moist loam.

Notwithstanding that considerable premiums have been offered by the nation for the encouragement of the growth of this plant, yet it appears that the demand for British flax by the manufacturers is not great.

Preparation.—Flax, after old grass; the land is ploughed early in December, so that it may receive all the winter's frost, to make it easily friable with the harrows in the spring, when the seed is sown. Before sowing, the land is well harrowed, and after the seed is distributed and harrowed in, the root-weeds and stones are gathered off; the land is then water-furrowed, which closes the seed process.

Quantity of Seed.—When it is intended for pulling green, it is sown thick; if to stand for seed, it is sown thin; the quantity of seed sown is from two bushels to two and a quarter per acre.

Time of Pulling.—When it is not intended to stand for seed, it is best to pull it a little early, which makes it finer in quality, and deteriorates the soil less. The exact time for drawing it, depends on the season.

Watering.—If flax is pulled green, it should be made into small bundles, and immediately put into water; if it stands for seed, it must be rippled before it is put into the water. Seven or eight days will be sufficiently long for it to remain in the water, when it should be taken out, and spread on the grass to dry and bleach; when dry, it is taken up in sheaves, and carried to the mill to be dressed.

Produce.—From 30 to 40 stone of flax, and 12 to 15 bushels of seed, per acre.

The whole of these operations are attended with a considerable deal of trouble and expense; still this crop would have paid more than any other, when the article sold at 135*l.* per ton.

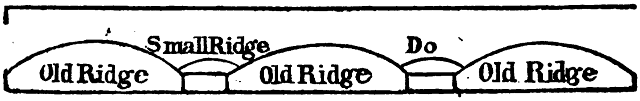
CHAP. VIII.

GRASS LAND.

IT is supposed the extent of land in permanent meadow and pasture grass in Warwickshire, amounts to 235,000 acres, and the quantity in artificial grass to about 60,000 acres, making together annually in grass 295,000 acres. Out of this quantity, it is supposed 80 to 85,000 acres are meadows, and mown for hay annually; and of the artificial grass about 10 to 15,000 acres are cut green, for horses and other cattle, and made into hay: the remaining 195 to 205,000 are pastured with sheep and cattle. The eastern district of the county appears to be more in permanent pasture than any other part I observed. At Radway, Warmington, Avon-Dassett, and along the Buckingham road, right and left, to near Gayden-Inn, is very rich pasture grass; but the defective manner in which a great deal of it has been originally laid down is truly lamentable, for the loss to the grazier, and consequent injury to the public, must be very great, owing to the unevenness of the surface, and especially so in wet seasons; for the spaces between the high ridges being mostly level, must be rendered nearly useless, from the quantity of water that lodges on them, and which produces a great number of sour grasses. From Rugby, all along the borders of Leicestershire, there is also a great deal of very rich land in permanent pasture, the greater part of which is nearly in the state just mentioned. Indeed many parts of the county abound in old pasture grass; and on each bank of the Avon, until it leaves the county, there are considerable quantities of rich meadow and grazing land.

Upon the strong clay lands in the Kington hundred, I observed ant-hills to abound very much in a great number of fields, proving very injurious to the grass. To level the surface of the old grass-land and retain it in old grass, a very excellent plan has been adopted by the Marquis of Hertford at Ragley. The ground is staked out into squares, and running parallel lines, twelve yards broad; the turf is then cut, to ascertain its thickness, so as to preserve it. After the turf is removed, the land is ploughed across, and the whole depth of the furrow on the crown of the ridge is thrown into the old furrows and levelled; this operation of ploughing and levelling up the old furrows with the spade, continues until the ground is made perfectly smooth for putting on the turf; when laid on, it is well rolled with a heavy roller, which binds it, and smooths the surface, and makes it take root. Mr. Baldwin, the Marquis's gardener, informed me, that the whole expense amounted to ten pounds per acre. He says, that before he adopted this plan, a great deal of grass was lost, owing to the large old-fashioned ridges, and the furrows between being soured. To this he attributed the rot which prevailed among the sheep; but that now, they can keep a great deal more stock on the same extent of ground than before the levelling, and never have such a thing as a rotten sheep now. The only objection to farmers following this plan is the expense; and if a farmer was to go over all his farm in this way, he would require to have a long lease, at least 30 to 40 years, to reimburse himself for his outlayings, in reducing these broad, high gathered, crooked ridges. I am convinced that the plan is worthy of imitation, and farmers not only in this county, but generally in every other where these ridges exist, should be encouraged by their landlords to adopt it. It might perhaps answer better, to make every one of these old furrows a drain, and to level the crown of the ridge over it. It would then not only be making a plane, but would be draining the land at the same time. The arable land might be levelled and drained in the same way, which would effect a wonderful improvement upon it.

A most intelligent agriculturist, Mr. James Andrew, farmer, of Tillylumb, near Perth, gives an account of the mode he adopted in reducing and levelling the broad, high gathered ridges on his farm in the Carse of Gowrie. He began with throwing a drain into every furrow, thus designing by one operation to dry the ground, to equalize the soil, and to give it a fallow. When these operations were completed, he gathered up a small ridge into the furrows above the drains, to protect them from the surface water. The following sketch will give some idea of the nature of this operation.



The breadth of the large ridges depends upon the size of the original ridges, which vary considerably. As to the small ridges above the drains, they are about two yards each, and they are fully as productive as the large ones. Thus, it may be said, that not an inch of ground is lost by the drains, and the whole is rendered more fertile and valuable. The drains are generally about two feet and a half deep, and as narrow in the bottom as an ordinary spade can conveniently work in them. He considered it necessary to go down, until he found a solid tilly bottom, in order that the water might run immediately above the till. The drain was filled to the depth of a foot, or rather more, with small stones, the undermost being carefully laid in by the hand, the rest thrown in promiscuously above them: the stones were then covered with a little straw, and earth above all: the expense about 7*l.* 14*s.* per English acre. Thus by adopting the plan practised by the Marquis of Hertford, in conjunction with Mr. Andrews, all the old grass land in the county of Warwick, and throughout the kingdom, that remains in the defective state before described, might be highly improved, without the sward sustaining the least injury. Still I am of opinion, that there are many tracts in the county of Warwick now in old sward, that would be more productive if broken up, and put into a course of tillage; and there are also many parts now in tillage, which, if well cleaned and laid down, would be more profitable in grass. A proper division in a country between grass and tillage, is certainly best, and it gives the farmer a more equal chance, than if all was in tillage, or all in grass.

In my opinion, when tranquillity shall be restored between this country and the belligerent powers, the grass lands will be a safer speculation for the farmer, than if he embarked largely in corn land; for corn is easily imported; and in time of peace, such large quantities of barley and oats were imported from Bremen, Hamburgh, Jutland, the ports in the Belt, and other ports in the Baltic, as to produce the effect of lowering the prices of grain much below what it was possible for the farmer to raise it at. Now, with the increased price of labour and taxes, if the same importation be continued, it will entirely destroy the corn farmer; but as cattle and sheep cannot be imported to such an extent as to affect in any material degree the meat markets, the grass farmer will have a better chance of profit, for in every district through the kingdom, the people eat beef and mutton: the remark of the celebrated agriculturist, the late Mr. Andrew Wight, of Ormiston, East Lothian, "that the feeding and rearing of sheep would always be particularly attended to, as long as the inhabitants of Britain eat mutton and wore broad cloth," will be verified. But it is to be hoped, that a revision of the corn laws will take place, and that such measures may be adopted for the encouragement of the growth of corn in our own kingdoms, as may supersede the necessity of importation; may make us an exporting instead of an importing people, and place the corn farmer upon an equality with the grazier.

SECT. I.—MEADOW.

THE most valuable part of the meadow land in Warwickshire, lies along the banks of the different rivers that run in the county; still there is an extent of meadow land scattered over different other parts of it. The produce in favourable seasons, upon the richest meadow land, is from two to three tons per acre; on less fertile, from one to two tons per acre. A certain proportion of meadow land attached to an arable farm, is of the greatest advantage. Meadow land near the towns, lets at from five to six guineas per acre; in other parts of the county, from two to three guineas. The principal watering the meadows get, on the banks of the rivers, is from the overflow of the water in floods. In the neighbourhood of Birmingham, and almost every town and village, there is more or less meadow watered, and when the meadows are properly managed, good crops of grass are produced without any manure.

The irrigation of meadow land is much neglected in every part of the county, and the people do not appear to understand the management of it in any degree equal to the farmers in the southern and western counties of England. Water, proceeding from limestone, chalk, marl, and other calcareous substances, is best suited for irrigating grass lands. Some farmers in Wiltshire and Hampshire assert, that pure spring water, coming from chalk, will have more effect in fertilizing grass lands, and in producing a heavier crop of grass, than the land that is watered by the putrid streams which proceed from towns; but I must beg leave to differ from them, being persuaded that the fertilizing qualities of the former are certainly not to be compared to those of the latter.

SECT. II.—PASTURES.

THE greatest extent of pasture laying together, is in the eastern districts of the county. With respect to the mode of management, it is principally grazed with cattle and sheep: the quantity of stock, per acre, depends upon the goodness of the pasture, and quality of the soil, and on the kind of stock put upon it. Good rich pastures will keep from six to seven sheep, or a good sized ox, per acre. Some farmers stock with sheep altogether, and others with cattle and sheep; when together, one ox or cow, and three sheep, to two acres. If the season be favourable, it will keep them from the month of May till November, and after that, winter one sheep to each acre.

With regard to dairies, many farmers have given them up, finding they can make more of their pastures by feeding cattle and sheep, than by keeping cows for making cheese and butter, and rearing young cattle. The graziers stock the pastures with all kinds of breeds of cattle, preferring those they think will pay them best, according to the soil, and circumstances of the pastures. Of the female kind, they prefer the long-horned heifers and cows; and of the ox, they like the Scotch and Hereford; but they make great complaints, of the very high price the Scotch cattle stand them in now.—The sheep are generally the New Leicesters, which are preferred to others.

Laying Land to Grass.—In Warwickshire, the land that is laid down to remain in pasture, is generally with the first crop, after a summer-fallow well manured. The seeds sown with the crop are, red and white clover, cow-grass, the best meadow-grass seeds, and a little perennial rye-grass, which produces an excellent pasture the first and second year, when the natural grasses in the soil begin to take root, and appear. White clover is natural to the soil of this county, and there cannot be a better pasture grass. In my opinion, it is unnecessary to select meadow grass-seeds, for laying land down in permanent pasture; a good mixture of red and white clover, with a little plantain, or rib-grass, of the two first, not less than seven pounds each, two pounds of the third, and two pecks of the latter, to each acre, sown with the crop succeeding a summer-fallow, well prepared and dunged, will be found very useful, or sown with the first crop after turnips, eaten on the ground with sheep, which is fully as good a preparation; the first year to be pastured with sheep, the second the same, and during the winter to lead in turnips for the sheep to eat them on the grass, care being taken that the turnips are regularly distributed over the field; this will insure the continuance of the goodness of the pasture-grass, as well as any plan that can be devised—at the same time, I am by no means an advocate for farm-land being laid down in permanent pasture.

Breaking up Grass-Land.—In Warwickshire, there is generally a restraining covenant in the leases and agreements made between landlord and tenant, to prevent the tenant from breaking up meadow and old grass lands, excepting under such a heavy penalty as makes it a complete prohibition for the tenants attempting any thing of the kind.

When newly taken-in-land is broken up, if the surface is clotted with vegetable matter, paring and burning is practised. Many of the Warwickshire farmers, however, have an objection to paring and burning, and say it reduces the land afterwards, and in general does it injury; but I am clearly of opinion, the injury does not proceed from the paring and burning, but from the injudicious way the land is afterwards cropt: for surely two or three corn crops taken in succession, are sufficient to reduce any land, however good its staple, and then the blame is unjustly attributed to the paring and burning. Farmers in general, when they are at a considerable expense in reclaiming land, and bringing it to a state to bear, are too apt to wish to be *soon* repaid their outgoings, and from this mistaken desire, over-crop the land, for immediate returns, when they should only expect them back by degrees.

Paring and burning is an operation well suited for preparing land newly taken in for a course of tillage; for the destruction of the clotted vegetable matter collected from being so long in a state of pasture, and of the numerous insects and vermin collected and deposited at the roots of the grass, and in the soil, is much more easily and efficaciously effected by combustion, than by any other means, being a quicker process of decomposition. If the land is cropt in the following manner after the process of paring and burning, and spreading the ashes regularly on the surface is finished, I maintain that no injury can be sustained.

If dry loam or turnip soil:

1. Ploughed for oats;
2. Turnip-fallow, dunged and limed to the turnips, and eaten on the ground by sheep;
3. Wheat or oats, grass-seeds sown; a good quantity of red clover, 12 lb. per acre;
4. Clover, pastured with sheep;
5. Ploughed for wheat;
6. Turnips, drilled, and eaten by sheep on the land;
7. Wheat or oats; grass-seeds sown;
8. Clover, pastured with sheep.

If clay, and fit for beans:

1. Ploughed for oats;
2. Summer-fallow, dunged and limed;
3. Wheat; red clover sown;
4. Red clover;
5. Clover, hay or pastured;
6. Wheat; after the crop is taken off, dunged on the stubble, and ploughed in with a deep furrow;
7. Beans, drilled;
8. Wheat;
9. Summer-fallow.

I have let on lease lately, 2600 acres on the Forest of

Dartmoor, in the county of Devon, to two very eminent agriculturists from Sussex; and it is their intention to bring the principal part of this large track of land into cultivation, by draining, paring and burning, and liming, and mixing the under stratum, which is mostly granite gravel, with the upper, which is composed of a dark mossy earth, and to manage it afterwards in the four-course shift, which is considered best adapted for this kind of soil.

CHAP. IX.

GARDENS AND ORCHARDS.

SECT. I.—GARDENS AND PLEASURE-GROUNDS.

IT is supposed the extent of ground under horticulture in Warwickshire is about 5000 acres. On this head, I did not observe that the mode of management differed from that practised in other counties. The soil is certainly well adapted for gardening, and raising every kind of vegetable suitable for the table.

Few of the gentlemen in the county but have hot-houses; but I presume it is carried on at Ragley, under the direction of that able horticulturist, Mr. Baldwin, to as great an extent as at any place in the county. The hot-houses and frames, and the healthy appearance of the plants, must gratify every person who sees them; more especially those who delight in the interesting science of horticulture and botany.

Mr. Baldwin has also the pleasure-grounds very tastefully laid out, and kept in good order; but I think they do not equal the grounds at Warwick Castle, which are certainly the height of excellence, and are kept in the most exquisite order. I am creditably informed, that the whole was planned and laid out entirely under the directions of the Noble Earl, the owner of this magnificent castle; affording a convincing proof to every beholder, of the refined taste and scientific knowledge which the Noble Earl possesses.

SECT. II.—ORCHARDS.

THERE are very few orchards of any extent in the county, and I did not observe any particular wish in either the landed proprietors or farmers to increase them, although there are many parts of the county where fruit-trees would thrive well.

I observed an insect called the coccus, having the appearance of down, making great havock on the apple-trees, and common crab apple-trees, which, if not destroyed, in a very short time must render the trees useless. I could not learn of any method being practised, that had the effect of destroying this insect. Mr. Wilmot, of Coventry, says he has washed the apple-trees in his garden with lime and water, and brushed them with a brush, yet he cannot get rid of it. It behoves the horticulturist and chemist to turn their attention to the destruction of this devouring insect, for if some plan be not soon found for its complete annihilation, it will spread over and destroy all the orchards throughout the kingdom. It is surely a subject deservingof the researches of a Knight and a Davy.

CHAP. X.

WOODS AND PLANTATIONS.

SECT. I.—WOODS.

THAT district of Warwickshire which contains the largest woods, is what was formerly called the Forest of Arden, extending through a great part of the middle of the county. I have heard it mentioned by some of the old people, that this forest of wood or timber trees stood so thick at one period, that a squirrel might leap from one tree to another, nearly the whole length of the county. The middle, western, and northern districts of the county, appear to abound most in timber, and in these districts there is a great quantity of most valuable oak, admirably adapted for ship-building, and other purposes.

The estate that is considered to possess the largest quantity of oak timber in the county, is the Leigh estate: I was creditably informed, that the quantity that is ready for cutting upon this estate, if sold, would exceed the sum of 150,000*l.*; I was sorry to observe a great deal of timber decaying on this estate.

Almost every nobleman and gentleman in the county, possess a considerable quantity of valuable oak timber on their estates; but the finest and best grown oaks I observed in any part of the county, was on the estate of Mr. Dugdale at Merevale. The trees standing near his house are remarkably tall and stately; and I do not consider I exaggerate when I say, that a great many of them will measure from 1 to 250 and 300 cubical feet: they appear to be at maturity, and if it were not for present ornament, and an idea of their original grandeur, it would be much better that they were cut down, and converted to the purpose of ships for the Navy.

The Marquis of Hertford's estate at Ragley, also abounds with oak timber of very large dimensions; but I understand no consideration would induce his Lordship to fell any quantity of it.

The most approved plan of raising oaks, is to sow the acorns in autumn: by sowing them then, the seedlings, or young plants, nearly gain one year in growth to those sown in the spring. In the course of two years, if proper attention has been paid to them, they are fit to be transplanted. Several people contend that oaks come sooner to maturity, that grow up naturally in the woods, and are afterwards properly trained. Too much attention cannot be paid, by spirited landed proprietors, to the rearing of oak timber. The immense falls which have taken place throughout the kingdom, for the supply of the Navy, might be a subject of serious alarm for our future maritime superiority, but for the measures adopted by Lord Glenbervie and the Board of Commissioners for the management of His Majesty's Woods and Forests, who have given directions that every spot of the royal woods, applicable to the growth of timber, shall be sown with acorns, or planted with seedlings.

Elm may be considered as the weed of the county; the parts where it grows to the largest size are the districts the Avon runs through. The greatest quantity I observed, of full grown trees, on any one estate in the county, was on that of the Rev. Mr. Lucey at Charlcott, where there are some of the largest trees I ever witnessed.

It is much to be wondered, that such a quantity of full grown oak and elm of the largest dimensions, should be allowed to stand, and to moulder away, when the price is so high, and the facility of exporting it out of the county by the canals so easy, that I have not the smallest doubt that 16 guineas per load might be obtained for oak, and 7*l.* to 8*l.* for elm, and fully more than the latter price for ash where it stands;—prices that are not to be trifled with.

SECT. II.—COPSE WOODS,

CONSIST of oak, ash, hazel, alders, birch, and beech, which are managed and trained up in the usual method as in other counties. The quantity to be cut annually, is allotted according to the extent of the wood, which is divided into falls of one, two, three, four, five, six, seven, eight, nine, ten, and sometimes eleven and twelve years' growth, which come in regular succession for one fall yearly. The wood is converted into various uses; into hurdles for folding sheep, hoops, faggots, rails, rake and broom stails. The value per acre varies very much, and depends in a great degree on the kind and quality. Copse wood never fetches so high a price in a county where coal abounds, as where it does not; and the inhabitants of Warwickshire are not only well supplied themselves with that necessary article within the county, but import large quantities from Staffordshire.

SECT. III.—PLANTATIONS.

THERE are a great many very thriving plantations, planted with different kinds of forest trees in many parts of the county: those that I admired most, were on the estates of the Earl of Warwick, where they have been most judiciously planned, and are making wonderful progress.

CHAP. XI.

WASTES.

THE quantity of waste land, including roads, but not including the common-field land, in the county of Warwick, was estimated about ten years ago by Mr. Wedge, of Packington, at 120,470 acres, and of commons and common-field at 57,000; but since that period, a great many Acts of Parliament have been obtained for enclosures, which have reduced the quantity of commons into a small compass, when compared with other counties. It is lamentable to observe with what slowness and supineness, the enclosing, draining, and bringing into cultivation the commons in almost every county in England is carried on, when the country is so much dependant on foreign supplies of grain, and that grain paid for by draining the nation of its coin and bullion. This indifference is truly astonishing, when we consider that the cultivation of all the commons and wastes capable of being cultivated, would be a certain means of diminishing, if not altogether removing, this dependance, and would increase the comforts and riches of the community; for there is no doubt, but if this kingdom were cultivated in the manner it ought to be, and in the way every good and scientific agriculturist would wish to see it, that is capable of growing grain sufficient for the supply of its inhabitants, although they were to increase considerably above their present numbers.

Heaths and Commons.

The greatest part of the heaths and commons lies in the northern and western parts of the county, and those of the worst quality: I could not ascertain the quantity, but they are greatly diminished within these twenty years. Sutton-Coldfield and Sutton-Park, are the only commons of any extent in the county, and it is distressing, that these, being situated near Birmingham, and at no great distance from lime, should remain in nearly an unproductive state, when, if brought into cultivation, they might rent at 20*s*. per acre. There is a considerable extent at Long Compton, which is now enclosing, supposed to contain 2500 acres, all of good clay soil, mostly on limestone rock, which will pay well for enclosing; and by having the means of improving at hand, may be soon brought into a good state of cultivation.

The great expenses attending the procuring an Act of Parliament, prevent a great number of small commons and wastes from being taken in, and on that account, enclosures only become an object where the quantity of land is great. A General Act of Enclosure can alone effect the enclosing of the small commons and wastes; and until that shall take place, they must remain in their present miserable and unproductive state.

Common-field land, in any other way than in grass, can never answer; and even in grass, if there are not proper restrictions as to the quantity of stock to be put on, the benefit, if any, will be very small: when in tillage, it is impossible to work the land properly, every other ridge being in the occupation of different people. The quantity of land of this kind in Warwickshire, is much lessened within these few years. In the adjoining county of Worcester, the extent of open-field land is very considerable, which is much to be lamented, when we consider the benefit that would result from its division and allotment.

CHAP. XII.

IMPROVEMENTS.

SECT. I.—DRAINING.

THERE is no improvement that can be made on land, productive of more salutary effects than that of draining, especially on all kinds of soils which are wet. One of the first operations in this improvement, is to convey the springs, and other superfluous moisture, from the land into proper channels, cut for that purpose, and to prevent the water from spreading on the surface of the ground. The method suggested by Mr. Elkington, of making deep drains, and boring at the bottom and sides of them through the under-strata, so as to tap the springs, and by that means convey them into a new channel, wherein he dried a great deal of land with few drains, has been practised in this county with great success. On strong wet clay soils, that have a tilly retentive bottom, it is one of the greatest improvements, to remove an excess of water from it; and on this kind of land, although there are no real springs, the drains ought to be numerous, though on these clay soils in the county, it appears not to have been practised, but only for real springs. Without the land is cleared of water, it is of no use to apply manure, and I am convinced that there is more land of this description in Warwickshire that stands in need of complete draining, than of manuring. The method I have before mentioned, as pursued by Mr. James Andrew, of Tillylumb, near Perth, on the strong land in the Carse of Gowrie, would answer a most excellent purpose, if used on the clay lands in Warwickshire: for, as before observed, it would not only have the desired effect of laying them dry, but the broad, high-gathered, crooked ridges, might be partly levelled at the same time, for it is impossible that kind of land can lie dry in the way it is laid up at present.

There has been a great deal of draining done within these three or four years in the northern part of the county, with much success; some have filled up the drains with stone, and others with wood, bricks, turf, and tiles, which last are very much used; and I was informed, that they answered extremely well, and came cheaper. The depth of cutting the drain, depends on a variety of circumstances; where they are filled up with stones, to be made safe, they should not have less than two feet high of materials, regularly laid and spread; when with wood, they should also be pretty deep, with bricks on each side in the bottom, and a tile on the top. I do not see that it is requisite to cast them so very deep. When I was at Packington, Mr. Wedge was making some drains in Lord Aylesford's park, and laying them with brick in the bottom and tiles on the top; they were upwards of five feet deep, and were very well finished; but at an expense that would not answer the pocket of a farmer. Where stones can be got readily, in my opinion they answer better for filling the drains, and are more durable than any other material; two feet high of good round stones, with a foot in breadth at the bottom, and two at the top, will convey a good run of water; and in dry seasons, drains filled up with stones, are not so apt to be injured by moles, as those that have a more open and large cavity. A good deal of draining has been done in the county with soughing bricks; two bricks, on the flat sides of which are circular cavities, when placed one above the other in the bottom of the drain, form a space of about three inches diameter for the water to pass through. This method is not so much approved of now as that formed by tiles, which are less liable to be choaked, and stop the water; the price paid for three feet by four to six feet, 2*s.* 6*d.* per rood, with an allowance of beer.

SECT. II.—PARING AND BURNING.

THIS is very little practised in the county now, only on lands newly taken in, and where the surface is overgrown so much with vegetable matter, that the plough cannot perform the work of laying the furrow over. The method is the same as in other counties; the expense depending on a variety of circumstances—the profit entirely on the after-cropping. If the land is cropped in a judicious manner, the profit will be considerable; if cropt as is done in many places, by taking three corn crops running, instead of profit there will be a considerable loss.

SECT. III.—MANURING.

THE manures principally made use of in the county of Warwick, are, dung, urine, soot, horn-scrapings, lime, marl, soap-ashes, and compost. The quantity of dung made at Birmingham, Coventry, and Warwick, is very considerable, and is generally consumed, and made use of in the neighbourhood of those towns; very little is drawn above ten miles, except soot and horn-scrapings, which are carried to a greater distance for top-dressing of wheat, being found to answer extremely well for that purpose.

The price generally paid at Birmingham, where the greatest supply is to be had, is 8*s*. to 9*s*. per ton for good dung; at Coventry, and Warwick, it sells at 9*s*. 10*s*. 6*d*. to 12*s*. per ton, which is a high price, and precludes it's being carried to a great distance.

In every part of the county there appears a want of attention to increase the quantity of dung, and neglect in employing it to the best advantage: the horse dung is seldom if ever spread regularly to mix with the dung of other cattle; the urine is suffered to escape and run off in every direction, and consequently the quantity wasted, from not being properly kept together, is great: the yards are hardly ever cleaned thoroughly out. The dung is led out in the summer-time to some lane, at no great distance, and there put up in a large dunghill, where it lies sometimes for two years, rotting and mouldering away until it is nearly rotten into earth, before it is used; at that time it is not only much reduced in quantity, but also in quality. Instead of this injudicious and losing practice, I would suggest, that when dung is to lie in the fold-yard until it is required for the turnips, or summer-fallow, a well of a considerable depth should be made at some convenient part of the yard, built with brick, and well pointed with cement, to prevent any of the urine from escaping, covered in on the top, and with a pump in it, and a close grate at the side of the well, to let the urine run into it. The horse-dung should be regularly spread over the yard, as carried out of the stables, so as it may be mixed regularly with the dung of the cows, and of other cattle, in the fold, and kept well together, to prevent waste. A month or six weeks before it is led out of the yard to be applied, it ought to be regularly watered with the urine, more especially if it be dry weather. Where a number of cattle are allowed to run loose in the fold-yard during the winter, the dung should not be led out as it is made; as, when carried out, the cattle must lie wet and be exposed to injury; except indeed, the farmer has a great command of straw, to bed the yard well as the dung is led out. There will be a greater quantity of dung made in this way than in any other, and it will go a much greater length, if applied regularly once a year. No dung should be allowed to remain longer than a year unapplied, as it loses its enriching qualities. The urine that has been collected in the well, should be pumped up into a water-cart, (such as is used in watering the roads in the vicinity of London), and carried out. It will be found highly beneficial as a top-dressing to meadow ground, wheat or clover. If the cattle are put up in sheds and stall-fed, the dung may be led out during the winter to the fields where it is intended to be laid on, and for the facility of leading on, when land is prepared for it, made into dunghills, in the most centrical places in the field. In making these dunghills, great care should be taken to mix the horse-dung properly with that of other cattle (as it assists the other in the fermentation), and in spreading the dung equally as it is thrown out of the cart or waggon, so that it may ferment and rot more equally: and when finished, the top should be covered over with some earth, to prevent the influence of the sun. Dunghills managed in this way require no turning, for they will be found in the course of three or four months, sufficiently rotten for any agricultural purpose.

Application.—Dung is applied on turf, before broken up, for beans and for turnips, succeeded with barley; and on land that has been brsuh or turnips, sown after a white crop comes off; on turnip-fallow from turf; on turnip-fallow, after oats; for wheat, after oats or barley; for potatoes and carrots; and to summer-fallow, for young wheats and young clovers, as a top-dressing in the winter; also for meadow land, and sometimes immediately after the hay is carried, which is considered to answer well: what is thought a good dunging, is from 20 to 22 cart-loads per acre. I am of opinion, that dung is never so profitably applied as to turnip-fallow or summer-fallow; when laid on in a proper state, it is reasonable to suppose that it will sooner incorporate with the soil, and be brought quicker into action, than in any other way it can be applied. The urine should be led out for either young wheats, clover, or meadow land, and this application of it will be found to answer much better than if used in a corporate state with the dung. Ashes, as a top-dressing for red clover, are found to answer well in every county. It is astonishing with what strength and vigour the plants shoot away after a dressing of ashes, especially if the season be mild and favourable.

Horn-scrapings, malt-dust, and soot, are also successfully applied as a top-dressing for wheat, especially the latter, which soon produces a visible effect on the wheat, when judiciously administered.

Lime.—This is obtained in many parts of the county by burning the limestone. Considerable quantities are burnt at Grafton-Court, Bitford, Wilnecote, Bearley, Billesley, Ufton, Harbury, Stretton, Princethorpe, Newbold, and in many other places. There is great abundance, of limestone along the borders of Oxfordshire, and Leicestershire, and very considerable quantities of lime are brought by the canals from Staffordshire and Leicestershire, for use in this county. There is more than a sufficiency of limestone for the consumption of the county, if it were quarried and burned in kilns of a proper construction; this is not the case, for they are very badly contrived, and the process of burning is both tedious and expensive. If they were built on the plan I before noticed, ten times the quantity of lime might be burnt, with a great deal less labour, and a very considerable quantity of fuel saved. The limestone I observed in different places, is of excellent quality—the close, dark, blue stone, which generally produces strong lime; the price of the limeshells at the kiln is 2*s.* 6*d.* per quarter, or 38*s.* per waggon load, and the quantity used is from 15 to 20 quarters per acre, or 120 to 160 bushels: this is too small a quantity to have much effect. It is the general opinion, that lime operates most powerfully on all kinds of soil, that has remained for some time in pasture grass; and this may easily be accounted for, as having more vegetable matter to work upon; for lime can only be considered as a stimulus, to be profitably applied where there is a great deal of dormant vegetable substance requiring to be brought into action, and consumed for the food of other plants. As a proof of this, if land that has been long in tillage, and well cleaned, be only limed, hardly any visible difference will be perceived in the succeeding crop; and except land laid down in grass is in good condition, if it only lies for two or three years, liming the grass on the surface before ploughing for a crop of corn, will answer but little purpose.

I made an experiment on a large field of 70 acres, which I entered on in very bad condition, as it had been in tillage for a great many years: I fallowed the whole the first year, and made it so clean, that hardly a root-weed was to be seen. As I had no dung or compost to lay on it, of course it went without: one third of the field was a poor mossy soil; one third sharp light gravelly and deep loam; and the remaining third clay. I sowed the whole with oats, and grass-seeds the following spring; the oats turned out a very poor crop, but the grass-seeds were promising. The first year I pastured it with sheep and cattle; the second year pastured it with sheep; but the grass was very indifferent indeed. I limed every second ridge through the whole field on the grass, at the rate of 250 bushels of lime-shells per acre; ploughed up the field in the months of December and January, and sowed it with oats in March, having marked the ridges that were limed; but in the autumn I could not perceive any difference in the crop: in the succeeding crop for drilled turnips, I observed a little difference. A part of the field, that was clay, that would not answer for that crop, I fallowed well, and limed several of the ridges that were not limed before, at the same rate; the lime was laid on in a powdered state, and harrowed in, and a small sprinkling of dung given at the same time. In the month of October the fallow was sown with wheat, and red clover along with it; through all the spring and summer following, the difference was observable at a very considerable distance; and in the autumn, when the crop was cut, the quantity that grew on the ridges that were limed to the summer-fallow, was kept by itself, and the others kept also apart; when thrashed, the difference in favour of the crop on the ridges that were limed to the summer-fallow was six and a half bushels per acre; the clover, although not sown at the usual time, succeeded well; still there was a considerable difference in favour of the crop on the ridges that were limed to the summer-fallow.'

Lime, when used on summer-fallow or turnip, has certainly a more powerful influence on the succeeding crops, than in any other way of applying it by itself, and more especially if it succeeds the first crop, after old pasture grass. Upon strong clay lands that undergo a regular course of cropping, it will be found highly beneficial to lime every time the land is summer-fallowed, and dunged; it will pay well, by the difference it will make in the succeeding crops.

A great error, in my opinion, is committed by the farmers in Warwickshire, in being too sparing in the quantity of lime applied, and in not laying it on when in a fine powdered state, and the land not perfectly dry, well pulverized, and clean; for it is reasonable to suppose, that when land is dry and well pulverized by often ploughing and harrowing, and clean, and free of all weeds, to lay the lime on hot in a fine powdered state, and to harrow it in, water-furrow, and clear out the ends of the furrows, that no water may lie on the ground to sour, it will have more effect on succeeding crops than in any other way it can be applied. It is a great saving of labour, to lay it down in heaps regularly along the crown of the ridges, as it is brought hot from the kiln, and spread it as it falls down; but this practice cannot always be followed, for in wet seasons, you cannot get on the clay lands without doing them considerable injury; but in seasons that will admit of this being done, it is a considerable saving of expense, and is the most sure way of giving every part of the field a regular quantity.

The annexed plan, (see *Plate*), will show more distinctly what I mean.

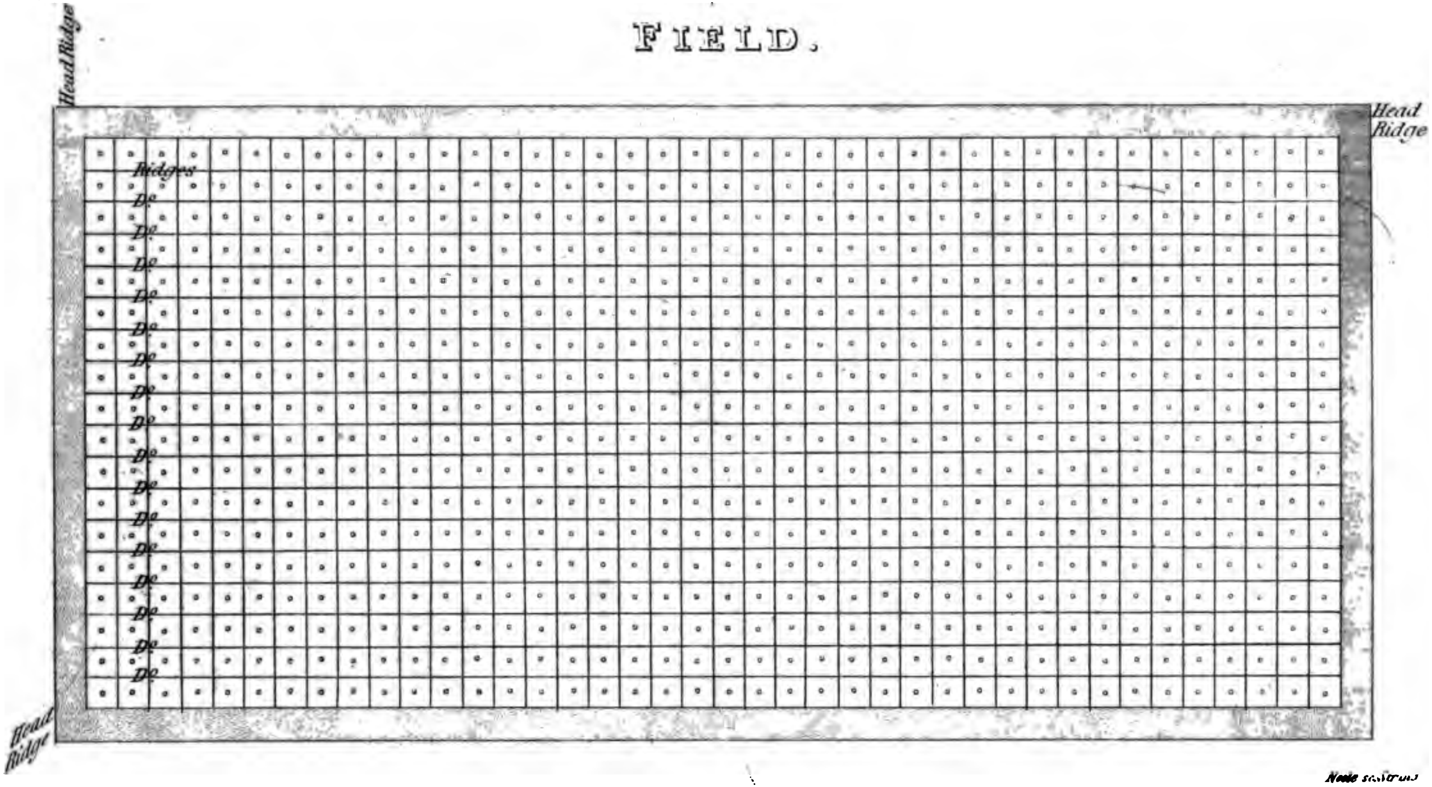
The border space round each side, denotes the head-ridges; the black lines longway, the ridges; the cross lines are single furrows drawn across, to mark where the heaps should be placed, as drawn out from the cart or waggon; and the dots between, show the lime-shell heaps, which may be very regularly spread where sufficiently fallen or slacked; great attention should be paid, in spreading out the bottom of the heap.

Marl—Is to be found in many parts of the County; that of the best quality lies under the strong clay land; marl that is wrought under light soils, is of a very inferior quality. From the number of pits that are to be seen in every district of the county, it would appear that marl was formerly in much greater use than it is at present. Since the practice of burning lime commenced, the use of marl has diminished yearly, and the effects of lime have been found from experience so infinitely superior to those of marl, that the last will in a short time cease to be used at all.

Soap-Ashes—Are only used in the immediate neighbourhood of towns where soap manufactures are. This manure is not in much estimation among the farmers, and being a heavy bulky article, is only carried to a short distance; it answers as a top-dressing for young clover, and for mixing with rich earth as a compost.

Composts.—The farmers in Warwickshire show no great skill in the management of their composts; the general practice throughout the county, is to burn all the couch that is gathered in the fields; but this, if led to

FIELD.



Neele sculpsit

to some convenient corner, and then mixed with lime, would produce a great deal of valuable dressing, which is now lost for want of attention, or knowledge how to convert it. Dung and lime are used in mixing with the earth on the high headlands, and the scourings of the ditches and ponds, and are frequently turned until the dung is completely decomposed; yet sufficient attention, when they are turned, is wanting, to cover over the top with mould to prevent the waste of the dung. Considerable quantities of rich earth are mixed with lime, which, after frequent turnings, is used on summer-fallows, and on grass lands that are intended to be broken up. The compost mixed with dung is used for fallows, and as top-dressings for wheat, clover, &c. which nourishes the plants, and forces them to shoot with vigour.

SECT. IV.—IRRIGATION.

IRRIGATION is practised in the neighbourhood of Birmingham, Castle Bromwich, and many other parts in the county, but only on a small scale, and is executed in a very slovenly manner. The watering of grass lands appears not to be properly understood. There are many places well situated for irrigation, which, if judiciously performed, would effect a wonderful improvement on all the meadow land susceptible of the operation. Water that flows from calcareous substances, is considered best for this purpose, and in many parts of the county, there are numerous springs of water that flow from limestone and marl, which might be converted to this use with very great advantage.

In Wiltshire, Hampshire, and some of the western counties, the process of irrigation is better understood, and where the crops of grass, from receiving nothing but flooding with pure water, are supposed to be nearly equal to the crops raised on meadows that are richly and regularly dressed with short dung.

SECT. II.—SHEEP.

SHEEP must always be a very interesting animal to the nation, producing both food and raiment. The great attention that has been paid by many eminent breeders in Warwickshire, to improve the wool and mutton of this animal, by selecting the finest Leicestershire rams, and paying the most extravagant prices for them only for a season, to cross with from a selection of the best shaped ewes in the county, has now produced a breed of sheep equal, if not superior to most counties in England.

Breed.—There are several sorts of sheep bred in the county. The large polled sheep, or ancient Warwickshire; the New Leicesters; the Wiltshire; a small sort, some with black and grey faces, bred on the commons; the South Down; Welsh; and of late the Merinos. The large polled sheep, or old Warwickshire, bred by Mr. Palfrey at Finham, near Coventry, and several other eminent breeders, when very fat, will weigh from 40lb. to 48lb. per quarter, and shear from 9lb. to 16lb. of wool each. The average size of this kind of sheep, when hogs and fat, is 23lb. per quarter, and their fleece weighs from 6lb. to 9lb. A dispute existed between the celebrated breeders, Mr. Bakewell of Leicestershire, and Mr. Palfrey, as to the superior merit of the Warwickshire sheep or the Leicester; which ended in a cross being proved the best; and this has been practised since, the ram being chosen as the regulator of the size and quality of the sheep. The first cross between the Leicestershire ram and strong Warwickshire ewe, always produced the best sheep for the butcher: the great difficulty in the crossing appears to be to keep up the original size of the sheep, weight of wool, and meat, which are a most essential point to the graziers. The fleeces of the old Warwickshire used to average 9lb. of long wool; of the mixed 6lb.

The New Leicestershire sheep, bred by Mr. Robins, and Mr. Umbers, near Warwick, are very generally used in the county, and are much smaller in the bone, lighter in the offal, and wool, than either the old Warwickshire or Leicestershire breeds. They are extremely handsome in their features, and shorter in the wool; but a great difficulty arises in keeping up the size. They are never kept longer than two years, and at that age, when fat, will weigh from 23 lbs. to 30 lbs. per quarter, and will shear from 5 lbs. to 6 lbs. of wool each. The wether lambs, if good, will fetch from 30*s.* to 35*s.* a head. The great quality this breed possesses is, being very easily fed, and carrying all their flesh and fat upon their backs; and such has been their reputed excellence of becoming soon fat with a small proportion of food, that rams of this breed it is said, have been let out for the season, as high as 1500 guineas. Mr. Robins has let, this year (1811) 70 rams at 16 guineas each, and Mr. Umbers 33, at 37½ guineas, and 80 at other prices; a convincing proof of the high repute in which this breed is held.

Of the Wiltshire sheep, very few are bred in the county. Lord Aylesford has a considerable flock for folding, being more adapted for that purpose than the long-wool breed; the ewes are considered good mothers, and make very fat lambs, and the wethers for feeding.

The sheep that are found on the commons and open fields, some with black and grey faces, and bred there, are a very mixed breed; the best of them, when fat, at three years old, will weigh from 18 lbs. to 23 lbs. per quarter, and shear from 4lbs. to 6 lbs. of wool each; the inferior sort will weigh from 5 lbs. to 10 lbs. per quarter, and cut from 1 lb. to 3lbs. of wool, which is used by the clothiers for making coarse cloths.

The South Down sheep have been introduced into the county by Lord Hood, on his estate near Coventry: they answer the purpose of folding much better than the long-woolled sheep, being more active, and less liable to injury from driving about: when fat, they will weigh from 15 lbs. to 18 lbs. a quarter at three years old, and will shear from 3 lbs. to 3½ lbs. of wool each;—but they are not liked by the butchers, having less offal than the other kinds.

Of the small Welsh sheep, very few are bred in the county: they are mostly bought in by gentlemen for grazing in their parks, for the use of their tables, the mutton being small, and of a more delicious taste than any of the other kinds. When fat, they will weigh from 5 lbs. to 10 and 12 lbs. a quarter, at three years old, and will cut from 2 lbs. to 3 lbs. of wool each. The ewes make excellent mothers, and in general make fat lambs where they have plenty of food: the mutton and lamb sell always dearer in the market than any other kind, especially the wether mutton.

The Spanish or Merino sheep have been lately introduced into the county, and bred by Lord Aylesford at Packington, and Mr. Thomas Jackson at Alveston Pastures, near Stratford-on-Avon, whose flock is about 600; which number may be considered as sufficient for making a fair trial of their success or failure. Mr. Jackson speaks very highly of them, and says he has very few deaths; that they stock much better to the acre, and that their mutton is equal to any of the other kinds bred in the county. If this can be sufficiently ascertained, this breed of sheep must be more profitable than any of the other kinds, having superior wool, and carrying a greater weight of it, than the South Down. The land Mr. Jackson rents is peculiarly adapted to them, being very rich and dry; and if they thrive in any part of the kingdom, it must be there. However, this breed of sheep do not appear to be gaining much among the farmers and graziers in the county, and have rather got into disrepute in many parts of the county, without any substantial or sufficient reason being assigned; I have no doubt of their soon being in repute again.

SECT. III.—HORSES.

THE horses generally used in the county of Warwick for farm purposes, are heavy black horses; which are much improved by the fine stallions that are sent from Leicestershire every year. There are also a great many riding, hunting, and coach-horses, bred in the county, the prices of which run very high; thirty, forty, fifty, and even sixty guineas, are given for good work-horses for farm purposes; but the general prices are from thirty to forty pounds: good riding horses sell from fifty to one hundred guineas; and for hunting horses, more is paid from fancy, than for the real value of the animal.

The mode of feeding, and hours of working farm-horses, are nearly the same as in other counties; but I cannot help remarking, that the way the horses are wrought in farm purposes, is a very expensive and unprofitable one. Much more work might be done with a light, well-constructed plough, with two horses worked abreast, than is performed by four worked an end: much benefit would be derived, and expense and labour saved, by the introduction of light single-horse carts with cylindrical wheels, five-inch tire, instead of the heavy carts and waggons now used every where in the county: with these carts one horse will draw with ease a ton weight, and on good roads one man is sufficient to drive three o these one-horse carts. The disuse of the waggons, and the adoption of the carts, would reduce the number of horses in the labour of the farm, so much, that the farmer would derive a great increase of profit; for the keep of horses has greatly risen within these few years; and I should imagine, reckoning every thing, that every farm-horse, fed as he ought to be for hard work, must stand the farmer in 45*l.* per annum.

SECT. IV.—HOGS.

THERE are many different breeds of pigs in the county; the large white pig, the black and white spotted, the grey-coloured, and the dark brown. The large white pig grows to the greatest size, and will weigh, when fat, from twenty to forty score each; but they are not considered so profitable as those of a less size. The Berkshire pig is reckoned as profitable as any that has been introduced into the county. Fewer pigs are now kept, since the dairies have decreased.

SECT. V.—POULTRY.

THE county of Warwick abounds with poultry, owing to the prevalence of small farms. At several places, I counted 50 and 60 full grown turkies walking by the side of farmers' rick-yards, and at Coombe Abbey near Coventry, the seat of the Earl Craven, I saw several hundreds of fine full grown turkies, and other fowl in abundance. Great quantities are sent to London, but the principal market for them is Birmingham.

SECT. VI.—RABBITS.

THERE are few rabbit-warrens in the county of Warwick, and none of which are of any considerable extent; they are encouraged by several noblemen and gentlemen to breed in their parks, but are very destructive to the corn-fields in their vicinity, and injurious to the farmers.

SECT. VII.—GAME.

THERE is great abundance of pheasants, partridges, and hares, in the county of Warwick; the protection of them is particularly attended to by many of the noblemen and gentlemen; but where the pheasants and hares are so very much encouraged to breed, and remain unmolested, they become a great pest to the farmers, and in many instances are very destructive indeed to the corn-fields contiguous to these preserves. The injury done by the pheasants is so very great, that I have understood the damage sustained by some farmers so situated, has been equal to 150*l.* and 200*l.* some years;—a consideration of no small magnitude.

CHAP.

CHAP. XIV.

RURAL ECONOMY.

SECT. I.—LABOUR.

WARWICKSHIRE being a great manufacturing county, the price of labour may be in some degree governed by the state of trade, and in the vicinity of the large manufacturing towns, labourers must be unsettled, and always changing about from one master to another. If the drill husbandry were prevalent in the county, when trade is brisk, there might be a difficulty in procuring a sufficient number of hands for hoeing the crops properly; however, I could not learn that any want of labourers prevailed, as plenty were to be had for all the agricultural purposes wanting.

Wages from 2*s*., 2*s*. 6*d*., 3*s*., and 3*s*. 6*d*. per day, with an allowance of small beer; women from 1*s*. to 1*s*. 6*d*. per day; working hours in the summer from six o'clock in the morning to six o'clock in the evening, and in harvest time earlier and later; women from eight o'clock in the morning till six o'clock in the evening; and in winter, as early and late as the light will permit them.

Piece-work varies so much, and depends so entirely on the state of the land and crops, that it would be difficult to state a fair average. Hoeing beans the first time, from 6*s*. to 8*s*. 6*d*. per acre; second time, 5*s*. 6*d*. to 6*s*.; turnips the first time, from 7*s*. to 8*s*. per acre; second time 5*s*.

to 6*s.* per acre; mowing hay 3*s.* to 4*s.* 6*d.* and 5*s.* per acre, with allowance of beer; reaping and binding wheat from 12*s.* to 16*s.* 6*d.* per acre; mowing barley and oats, from 2*s.* 6*d.* to 4*s.* 6*d.* per acre; hooking pease from 5*s.* to 8*s.* per acre; beans, and binding, from 8*s.* to 10*s.* 6*d.* per acre; thrashing, where thrashing mills are not used, is generally done by the flail, at so much a bag, containing three bushels, the price depending on the state and condition of the crop, and the ease or difficulty with which the grain is separated from the straw.

Wheat is thrashed at 1*s.* 6*d.* to 2*s.* per bag; rye much the same; barley and oats, at 2*s.* to 3*s.* 6*d.* per quarter; pease and beans, at 2*s.* 6*d.* to 3*s.* per quarter.

Ditching and draining are generally done by the rod, and vary according to the nature of the soil, and breadth and depth of casting;—a four-foot ditch by three, if not stony, 1*s.* 3*d.* to 1*s.* 4½*d.* per rod; drains three foot by four, casting and filling up, 2*s.* to 2*s.* 6*d.* per rod, and beer; paring and burning, and spreading the ashes, costs from 30*s.* to 3*l.* 10*s.* per acre; the price of this operation depends on the condition of the turfs, and nature of the soil.

The principal animal food used by labourers is pork or bacon, boiled or broiled, which is cut in slices, and with an onion eaten on a piece of wheaten bread, and washed down with water, when they cannot procure beer; but in general, they have as great a respect for beer in this county as any in England, and if it is possible to procure ale, they will not want it, if their wives and children should go naked.

Hired Farm-Servants.—The wages given to ploughmen, and waggoners, boys, &c. differ in different parts of the county; but in general, they run from 12, 14, 16, and some as high as 20 guineas a year, and their board. Boys, five to six guineas a year, and their board. Hours of labour from six o'clock to two, or from seven to three, in the summer, and afterwards clean down their horses, and procure meat for them: clean out the stable, and any other thing necessary to be done; in winter about six hours.

The following is a comparative statement between thrashing grain with the flail and with the thrashing-mill; supposing a good, well-constructed thrashing-machine of four-horse power, to thrash 30 quarters of wheat per day, and 50 quarters of oats.

Statement of the Expense of Thrashing Thirty Quarters of Wheat with the Thrashing-Mill.

Four horses one day, at 6*s*. per horse, ...	£1	4	0
One man or boy to drive them, ...	0	2	6
One man to feed into the mill, one day, ...	0	2	6
Two women to give up the wheat, and bring it forward, ...	0	3	0
Two men to take away the straw, one day, ...	0	5	0
One man to riddle and clear the fanner, one day, ...	0	2	6
Tear and wear of the machinery, oil, &c.	0	5	6
	£2	5	0

Thirty quarters of wheat thrashed by the flail, at 5*s*. 4*d*.	£8	0	0
Cleaning thirty quarters, one man and three women; two days, man at 2*s*. 6*d*., six women at 1*s*. 6*d*.	0	14	0
	£8	14	0
Balance in favour of a good thrashing-mill, ..	£5	9	0

	£	s.	d.
The mill will thrash fifty quarters of good oats in one day, with the same expense,	£2	5	0
Fifty quarters of oats, thrashed with the flail,	£5	0	0
Cleaning fifty quarters with the fanners or winnowing-machine, one man and three women; two days and a half of one man at 2*s.* 6*d.*, seven days and a half of three women at 1*s.* 6*d.*	0	17	6
	£5	17	6
Balance in favour of the thrashing-mill, ...	£3	12	6

In wet weather, in winter, when a farmer's horses are idle, the corn may be thrashed at less expense. In the above, I have charged the labour of both man and horse as high as it is before stated.

SECT. II.—PROVISIONS.

THE great facility in the intercourse between one part of the kingdom and the other, by means of canals, railways, and good roads, and the reports of the clerks of the markets being regularly made public, has the effect of keeping the price of grain pretty equal through the kingdom; and the prices now are very much regulated by the prices given in the London market. The consumption for stock, cattle, sheep, lambs, pigs, &c. is certainly great at Birmingham, Coventry, and Warwick; still a great deal is drove to Smithfield, for the supply of the London market; and at any time there is not more than 1*d.* to 2*d.* per pound difference between the prices in London and at the above places, and often the same. It would be difficult to state the exact average price of grain and stock, except I was in possession of all the weekly returns, and even then perhaps it might not be correct.

SECT. III.—FUEL.

COALS are in general use throughout every part of the county, which is well supplied, not only by means of the coal-mines wrought in different parts of it, but in a great measure also from the coal-mines of Staffordshire, which are of a much superior quality, and are conveyed into all parts of the county by means of canals. The price of them varies, according to where they are delivered; but at Birmingham, the great mart for coals, they are sold at 11*s*. to 12*s*. per ton, and at Bedworth and Griff, and other collieries, they are sold at the pit-mouth at 11*s*. 6*d*., 11*s*. 8*d*., and 12*s*. per ton.

Faggots and bavins are used in heating ovens, and for brewing; and in some parts of the county, cord-wood is used, especially when there is any grubbing of underwood going on; but coal-fires come cheapest in the end,

CHAP. XV.

POLITICAL ECONOMY.

SECT. I.—ROADS.

THE turnpike-roads in the county of Warwick are in general good, and appear to have been pretty well formed at first; but the private roads are not well attended to, from an improper application of the statute labour, owing probably, in a great degree, to the negligence of those who are appointed to superintend them. The materials for making roads are very good (limestone and gravel), and when judiciously formed, and laid to the width of sixteen or eighteen feet, with a proper depth of these materials, they will stand a considerable time without wanting much repair; but what destroys the roads so much, is the pressure of the large, heavy, ponderous waggons and carts used in every part of the county; whereas, if light carts, with wheels of five-inch tire, were substituted instead of the former, the roads would be kept at much less expense, and would be infinitely better at all seasons of the year. It certainly would be of very great advantage to the community at large, if all the public roads through the kingdom were made broad enough to admit of an iron rail-way at each side, and to reduce the size of the wheels, and the tracks or treads to one standard. The great facility and dispatch in the conveyance of all kinds of commodities, would in a very short period defray the expense of making the rail-way, and the saving of horses and labour would be immense.

In the formation of roads in general, a great error prevails, in not making them broad enough; and in the next place, in not laying the materials properly on; rounding of the road so as to carry off the water, without making it so high in the middle. I have generally observed, that when roads have a gentle declivity from one side only, and have been properly formed with good materials, that they stand longer, and keep in much better repair. The reason is plain, for the shaft-horse or horses can never keep the same track; consequently the wheels of the carriages that pass along, always take a different track, which frees the road from ruts, and wears it equal. In many parts of the kingdom, high banks and high hedges on each side of the roads, are very destructive to them, as they keep them always wet, and the sun and wind have no influence on them to dry them after a fall of rain; and where they are so situated, a great additional expense is incurred to keep them in repair, and after all, the road is bad, when compared to where it has an open exposure. I could not learn the expense of upholding the public roads through the county, by the year, or I might have stated the expense on the different lines of road, and taken the average of five or seven years.

SECT. II.—CANALS.

THE canals that pass through the county, are one from Dudley to Birmingham, and from thence, the Wigginshall, Birmingham, Fazeley Canal, and from Fazeley, the Coventry Canal, to Atherstone, Chilvers-Coton, Griff, Longford, and Coventry; a branch of the Ashby-de-la-Zouch Canal, and another to Marston and Griff; the Oxford Canal, which joins the Coventry, near Longford, to Brinklow, Brownsover, and Brawnston, where it joins the Grand Junction, and from them proceeds by Lower Shuckburgh and Merstondale, and leaves the county near Wormleighton to Oxford; one from Birmingham to Worcester; one branch to Stratford-on-Avon, called the Stratford-on-Avon Canal, and one branch from it to Tanworth, and another to Grafton Lime-works; one from Birmingham to Warwick, called the Warwick and Birmingham Canal, a branch near Lapworth-street, which joins the Stratford Canal; and one from Warwick, that joins the Oxford Canal about two miles east of Southam, called the Warwick and Napton Canal.

All these canals join, and are of immense benefit to the county, both in an agricultural and commercial point of view; and still there might be branches from these canals that would benefit the county much, by bringing coal and limestone to centrical situations in different districts, to lessen the land carriage, which would tend greatly to improve every part of the county to the highest pitch of cultivation, would increase the value of property amazingly, and at the same time better the circumstances of the cultivators.

SECT. III.—MARKETS AND FAIRS.

THE following is a list of the principal markets and fairs held in the county of Warwick:

Names

Names of Places.	*Markets.*	*Fairs.*
Alcester	Tuesday	Tuesday before April 5, May 15, second Tuesday in July, October 17, for cheese and horses.
Atherstone	Tuesday	April 7, horses, cows, and sheep; July 18, a holyday fair only; September 19, for horses, cows, and considerable for cheese; December 4, for horses and a great number of fat cattle.
Birmingham	Thursday	Thursday in Whitsun week, Sept. 29, for hard ware, cattle, sheep, and horses.
Brailes		Easter Tuesday, for horses, cows, and sheep.
Coleshill	Wednesday	Shrove Monday, horses; May 6, horses and cattle; Wednesday after New Michaelmas, all sorts of cattle.
Coventry	Friday	Second Friday after Ash Wednesday, for linen and woollen cloth; May 2, for horses, cows, and sheep; Friday in Trinity week, for flannels, linen, and woollen for eight days, first day representing Lady Godina on horseback; August 26, 27, November 1, for linen and woollen, and horses.
Henley-in-Arden	Monday	Lady-day, March 25; Tuesday in Whitsun Week, for cattle; October 29, horses, cattle, sheep, and hops.
Kenilworth		April 30, September 30, cattle and pedlary.
Kington	Tuesday	St. Paul, January 25, seed and corn; St. Luke, October 18, cattle and cheese.
Nuneaton	Saturday	February 18, May 14, October 31, for horses, cows, and sheep; if October 31 happens on a Sunday, then the day before.
Rugby	Saturday	Second Tuesday after January 6, February 17, March 31, May 15, July 7,

Names of Places.	*Markets.*	*Fairs.*
Rugby	Saturday	August 21, November 22, Monday before St. Michael, September 29, horses, cows, sheep and cheese; December 10, cattle, &c.
Solyhull		May 10, October 10, cattle, sheep, and horses; April 29, October 12, cheese, hops, and cattle.
Southam	Monday	Easter Monday, Monday after Holy Thursday, July 10, horses, cows, and sheep; first Monday in October, and first Monday in Lent, cattle and sheep.
Stratford-upon-Avon	Thursday	Thursday after March 25, cattle, sheep, and pedlary; May 14, September 25, Thursday after September 25; for cloth, cheese, seed, wheat, hops, and all sorts of cattle. The day after the last is a statute for hiring servants.
Warwick	Saturday	Third Monday in January, and Monday in February; Monday before April 5; first Saturday in Lent; May 12; first Monday in June; July 5, horses, cows, and sheep; second Monday in August, kept 4th, horses, cows, sheep, and cheese; October 12, Statute; November 8, horses, cows, and sheep; Monday before St. Thomas, December 21, cattle and sheep, &c.

SECT. IV.—MANUFACTURES.

Manufactures of different descriptions are carried on to a great extent in the county of Warwick. At Birmingham, all kinds of hardware goods are made, and in the vicinity a very extensive trade is carried on by Messrs. Bolton and Watt, in the manufactory of all kinds of plated goods, coinage for Government, and making steam engines, not only for the supply of almost the whole of the Empire, but sending immense numbers to every part of the civilized world. The steam engine first constructed by that great and ingenious mechanic, Mr. Watt, has stood the test, and proved to be superior to any yet invented; as is most clearly proved by the house of Messrs. Meux and Co. brewers in London, who have tried a great variety of engines of different constructions, which were constantly going wrong, and who, therefore, were under the necessity at last of having only Messrs. Bolton and Watt's engine, which they find to answer their full expectations.

There is a very considerable nail manufactory carried on at Bromwich, by Messrs. Whitehouse and Co.; but since the non-intercourse with the United States, the principal trade carried on at Birmingham and the vicinity is the manufactory of muskets for Government: six thousand are sent weekly to London.

At Coventry, are very considerable manufactures in the silk and ribbon weaving, tambouring, &c.

At Kenilworth, there is a considerable manufactory for horn-combs of all descriptions.

At Warwick there is a very considerable manufactory established and carried on by Messrs. Parkess, Brookhouse and Compton, for worsted for the hosiery trade: from four to five hundred people are constantly employed in combing and spinning long wool, and in other branches of this manufacture.—Also one for weaving calicoes and other cotton goods, of yarn spun at Manchester and the neighbourhood: at this factory about two hundred people are employed by Messrs. Parker. About the same number of people are employed by Mr. Benjamin Smart: about a mile and a half from Warwick, Mr. A. Emscot has parish for relief; and his sons, if he had any, would also consider it a stigma upon them, if they were to allow him, when feeble and unable to work, to receive parish support; the spirit of the country is above it, and God grant it may long continue so. But the lower class of people in this part of the kingdom consider parish support a matter of right, which clearly shows how greatly the spirit of independence has fallen; and, unfortunately, this depravity of feeling is daily increasing.

From the returns made to Parliament in the year 1803, it appears that the average rate in the county was about *5s.* in the pound, and that the number of persons out of the poor's houses in the different parishes, receiving parochial aid, was 26,584, assisted at an expense of 97,530*l.* 17*s.* 10½*d.*

Friendly Societies have been established in many places in the county, which should be strongly encouraged; and to show the example, every nobleman, gentleman, and farmer through the county, ought to become subscribers to them, and partake of the trouble of their management.

* * *

SECT. VI.—POPULATION.

THE following Tables will show the population in 1801 and in 1811, making an increase since the former period, of 29,788.

A Table of the Population of the County of Warwick, according to Mr. John Wedge's Account in 1801.

Hundreds.	Parish, Town, or Extra-Parochial Place.	Inhabited Houses.	By how many Families occupied.	Total Number of Houses in each Division.	Total Numb. of Inhabitants in each Division.
Barlichway	Alcester	360	2520	2946	20,622
	Henley	246	1722		
	Stratford	521	3647		
	Snitterfield, and the Villages	1819	12,733		
Hemlingford	Birmingham	7931	55,517	14,183	99,281
	Sutton-Coldfield	410	2870		
	Coleshill	256	1792		
	Part of Tamworth	404	2828		
	Polesworth	136	952		
	Atherston	482	3374		
	Nuneaton	410	2870		
	Solyhull	378	2646		
	Villages	3776	26,432		
Kington	Warwick	1050	7350	3975	27,825
	Kington	138	966		
	Brail Division, Burton Bassett, &c. &c.	2787	19,509		
Knightlow	Rugby	336	2352	4829	33,803
	Bedworth	394	2758		
	Kenilworth	366	2562		
	Southam	187	1309		
	Kirkby, &c.	3546	24,822		
Coventry	City and County of Coventry	2500	17,500	2500	17,500
				28,433	199,031

From this Table it appears, that the average number of inhabitants to each house exceeds six.

A Table of the Population of the County of Warwick, including the City and County of Coventry, according to the Returns made to Parliament in the Year 1811.

Hundreds.	Parish, Town, or Extra-Parochial Place.	Inhabited Houses.	By how many Families occupied.	Uninhabited Houses and Buildings.	Males.	Females.	Persons chiefly employed in Agriculture.	Persons chiefly employed in Manufactures & Handicraft.	Total Numbers.	Grand Total.
Barlichway	Alcester Division ..	1114	1151	44	2685	2955	495	457	5640	
	Snitterfield ditto	802	869	28	2125	2059	674	117	4184	
	Stratford ditto	1507	1617	47	3784	3905	907	345	7689	
	Henley ditto	810	890	26	1849	2024	527	268	3891	21,404
Hemlingford	Atherston ditto	2928	3264	53	6607	7866	1175	1986	14,473	
	Birmingham do.	1141	1197	45	2776	2976	571	497	5752	
	Solyhull ditto	1628	1798	38	4413	4457	1225	477	8870	
	Tamworth ditto	1555	1673	38	3921	3999	990	365	7920	37,015
Kington	Brails ditto	1021	1112	28	2472	2484	898	163	4956	
	Burton Bassett do.	765	842	13	1738	1871	566	192	3609	
	Kington ditto	1099	1183	48	2524	2595	741	246	5119	
	Warwick ditto	1027	1087	33	2465	2566	748	259	5031	
	Kington and Knightlow do.	117	120	—	279	295	95	22	574	19,289
						Carry forward	....			68,708

Hundred.	Parish, Town, or Extra-Parochial Place.	Inhabited Houses.	By how many Families occupied.	Uninhabited Houses and Buildings.	Males.	Females.	Persons chiefly employed in Agriculture.	Persons chiefly employed in Manufactures & Handicraft.	Total Numbers.	Grand Total.
Knightlow	Kenilworth Division	1580	1665	84	4034	4147	965	570	8181	68,708
	Kirby ditto	2363	2474	71	5093	5833	1344	881	10,926	
	Rugby ditto	1710	1792	41	4348	4222	1160	515	8570	
	Southam ditto	1178	1320	22	3021	3038	901	288	6059	33,736
City of Coventry		3448	4096	62	8197	9726	123	3207	17,926	17,923
County of the City of Coventry ..		1216	1283	46	2595	3353	308	853	5948	5948
Borough of Warwick		1298	1488	32	3125	3615	159	775	6740	6740
Town of Birmingham		16,653	18,165	418	40,518	45,235	589	17,294	85,753	85,753
Local Militia		—	—	—	1011	—	—	—	1011	1011
										228,819

From this Table, it appears that the average number of inhabitants to each house exceeds five; and the number estimated to each square mile through the county, averages 212.

CHAP. XVI.

OBSTACLES TO IMPROVEMENT.

THE greatest obstacles to improvement are, taking tithes in kind—the landlords not granting leases, and the system of common-fields, &c. It has become a very general practice throughout the county, among the landed proprietors, to grant no new leases, which in time will completely destroy all good husbandry; for no tenant in his senses, will lay out his capital to improve another person's property, without a lease, or a perfect certainty of remaining there at a fixed rent until he reaps the benefit of his improvements. As a proof, there is a large estate near Stratford-on-Avon, which I will be bound to find good and substantial tenants to take, at from three to four times the present rents, upon leases of 19 years duration. A number of the farms in the northern part of the county are also too small, and the farmers appear to want capital.

CHAP. XVII.

MEANS OF IMPROVEMENT.

THE county of Warwick has great resources, and means of improvement within itself; in general, a good soil, plenty of coal and limestone, great facility in water-carriage by canals, and large manufacturing towns, where a great deal of valuable manure is made.

With respect to the steps to improvement: 1. The landed proprietors should grant leases of a proper duration to men of active, industrious habits, possessing science, and capital, and willing to introduce a more economical mode of management into the county, by using the two-horse plough, drawn by two horses abreast, with only one man to hold and drive;—the single-horse cart, instead of the large ponderous waggons and heavy carts;—a better and more regular system of cropping—and the drill for turnips, potatoes, beans, and pease;—2. The enclosing, draining, and bringing into better cultivation, the common-fields;—and 3. The enclosing and draining the commons and wastes.

It is recommended by many, owing to the advanced prices of all kinds of grain, immediately to enclose all commons and wastes; and such a measure would certainly be of infinite advantage to the community; but it would be of more importance, in the first instance, to direct the attention and labour of the agriculturist to a more economical, and scientific system of operations on the lands already enclosed; and when they are brought into a more improved mode of culture, then it will be time enough to go on with the enclosing and breaking up of the others.

With regard to the saving of labour, much might be effected by the introduction of two-horse ploughs; by planting potatoes in drills, and drilling turnips, beans, and pease; harvesting barley and oats, by binding them into small sheaves, instead of making them all like hay; the quantity that shakes out by the present practice, especially if it gets much rain, being equal to a seed and a half sown, and it never thrashes so clean as when bound up into sheaves; and the introduction of thrashing-mills on a good construction, should be immediately and universally adopted. If these measures were put into practice, many men and boys would be at liberty to be employed in other improvements; and drilling the green crops would give employment to a great number of women and children all the summer.

A proper system of cropping is not always attended to, by many of the farmers in Warwickshire. It is a fundamental system of good husbandry, to consider well, and ascertain the best and most judicious mode of cropping, and to lay down a regular plan, keep the land always perfectly clean, and never take two white crops running, but grow a white and green crop alternately: under this plan, the land will pay double what it will by being managed in a slovenly injudicious manner. A great deal is lost also by the Warwickshire farmer in the management of the dung, in being too long in applying it, and allowing it to rot into earth before he applies it, which is the cause of its losing fully the half of its virtues. In the way of applying dung, I perfectly agree with that able agriculturist, Mr. Curwen, of Workington, Cumberland, who has given many useful hints for agricultural operations.

I have mentioned in page 36, that Sir Charles Mordaunt, Bart.; William James, Esq. of Warwick; Mr. Umbers, of Warwick; John Wilmot, Esq. of Coventry; Mr Wedge, of Packington; Mr. Gibbs, of Henley-in-Arden; and Mr. Morgan, of Cotton, near Alcester, had rendered me every assistance in their power, to complete this Survey: it is an act of justice I owe to the following gentlemen, to add their names to the list, viz.

Messrs. Bolton and Watt, Birmingham;
Mr. Baldwin, Ragley;
Mr. Blair, Castle Bromwich;
The Rev. Mr. Ellis, Long Compton;
Mr. Findon, Shipston-on-Stour;
Messrs. Parkess, Brookhouse and Compton, Warwick; and,
The Rev. Dr. Watson, Warwick.

To the above gentlemen I consider myself much indebted, for the countenance I received in the pursuit of my object; and I have great pleasure in recording their names to the Board, not merely as expressive of the attentions I experienced from them, but because, in the event of any farther information being deemed requisite, the Board may know to whom to apply: the liberality of these gentlemen would, I am certain, induce them to attend to any request made to them from the Board.

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